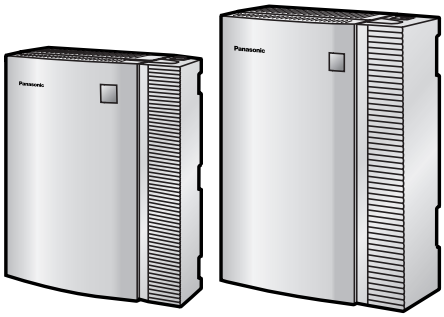
Panasonic



Voice Processing System

Installation Manual

Model KX-TVM50
KX-TVM200

Thank you for purchasing a Panasonic Voice Processing System.
Please read this manual carefully before using this product and save this manual for future use.

KX-TVM50/KX-TVM200: Version 1.0

System Components

The Voice Processing System (VPS) consists of the following system components when fully-equipped with all available optional cards.

KX-TVM50

	Model	Description
Main Unit	KX-TVM50	Voice Processing System
Optional Cards	KX-TVM502	2-Port Hybrid Expansion Card
	KX-TVM524	Memory Expansion Card
	KX-TVM594	LAN Interface Card
	KX-TVM296	Modem Card

KX-TVM200

	Model	Description
Main Unit	KX-TVM200	Voice Processing System
Optional Cards	KX-TVM204	4-Port Digital Expansion Card
	KX-TVM296	Modem Card

Important Safety Instructions

When using telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Follow all product warnings, cautions, and instructions.
- Read all the information contained in this manual.
- Close and secure the front cover when the unit is in operation.
- This unit is equipped with a 3–wire earthing plug. The plug will only fit into an earthed power outlet. Do not modify this plug in any way. If it cannot be inserted into the outlet, have the outlet replaced by a licensed electrician.
- This unit is designed to operate at one specific voltage and current setting. The proper voltage and current required for this unit are listed on the product label.
- Do not overload wall outlets. Overloaded outlets could result in fire and/or electrical shock.
- Use only the AC cord included with the unit when connecting the AC adaptor to the power outlet.
- Install the unit so that the AC cord is not obstructed in any way. Do not connect the unit to an extension cord.
- Before touching any internal components, turn off the unit, disconnect the AC adaptor, and wait at least 20 seconds.
- Unplug the AC adaptor before cleaning the unit.
- Do not use solvents, liquid cleaners, water, or abrasive powders to clean the unit. Use only a damp soft cloth for cleaning.
- Do not expose the unit to dust, moisture, condensation, high temperatures (more than 40 ˚C), vibration, and direct sunlight.
- Mount the unit on a stable wall surface. Do not mount the unit inside of a separate enclosure unless it is properly ventilated.
- Mount the unit on a surface that is flat and free of obstructions, so that the openings on the back of the unit will not be blocked.
- Do not block the vent slots and openings located on all sides of the unit. Allow at least 20 cm of space above and 10 cm on the sides of the unit.
- Do not install the unit near water or moisture, heating appliances, or electrical noise generating devices such as televisions, monitors, fluorescent lamps, or electric motors.
- Handle the unit carefully. Do not drop or otherwise expose the unit to physical shock.
- Do not insert wires, pins, or any other material into the unit's vent slots or access points. This could result in electrical shock and serious unit malfunction.
- If the unit malfunctions, disconnect the unit from the telephone line and check the line by reconnecting the telephone. If the telephone operates properly, have the unit repaired by a qualified service technician.
- Do not disassemble this product. Dangerous electrical shock could result. The unit must only be disassembled and repaired by qualified service technicians.
- Unplug and transport the unit to a service technician if the AC adaptor or AC cord is frayed or damaged, if the cabinet is cracked or broken, or if the unit has been exposed to moisture, has been dropped, or is not otherwise operating properly.
- Do not use the telephone during a lightning storm or to report a gas leak in the vicinity of the leak.

For users in Taiwan only:

- Lithium batteries can be found in the circuit boards of the main board and optional cards of the PBX.
- When disposing of any of the above products, all batteries must be removed. Follow the applicable laws, regulations, and guidelines in your country/area regarding disposal of batteries.
- When replacing a battery, use only the same battery type, or an equivalent recommended by the battery manufacturer.
- Regarding removing or replacing a battery in the circuit board, consult your dealer.

廢電池請回收

For users in Finland, Norway and Sweden:
This unit may only be installed in a room or space with restricted access, and equipotential bonding must be applied. For information on earthing, refer to 2.11 Frame Earth Connection.

For users in Germany:
Machine Noise Information Ordinance, 3rd GPSGV: The highest sound pressure level is 70 dB (A) or less according to EN ISO 7779.

WARNING

- **UNPLUG THIS UNIT FROM POWER OUTLETS IF IT EMITS SMOKE, AN ABNORMAL SMELL OR MAKES UNUSUAL NOISE. THESE CONDITIONS CAN CAUSE FIRE OR ELECTRIC SHOCK. CONFIRM THAT SMOKE HAS STOPPED AND CONTACT AN AUTHORISED SERVICE CENTRE.**
- **THIS UNIT MAY ONLY BE INSTALLED AND SERVICED BY QUALIFIED SERVICE PERSONNEL.**
- **WHEN A FAILURE OCCURS WHICH EXPOSES ANY INTERNAL PARTS, DISCONNECT THE POWER SUPPLY CORD IMMEDIATELY AND RETURN THIS UNIT TO YOUR DEALER.**
- **DISCONNECT THE TELECOM CONNECTION BEFORE DISCONNECTING THE POWER CONNECTION PRIOR TO RELOCATING THE EQUIPMENT, AND RECONNECT THE POWER FIRST.**
- **TO PREVENT FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.**
- **THIS UNIT IS EQUIPPED WITH AN EARTHING CONTACT PLUG. FOR SAFETY REASONS, THIS PLUG MUST ONLY BE CONNECTED TO AN EARTHING CONTACT SOCKET WHICH HAS BEEN INSTALLED ACCORDING TO REGULATIONS.**
- **THE POWER SUPPLY CORD IS USED AS THE MAIN DISCONNECT DEVICE. ENSURE THAT THE AC OUTLET IS LOCATED NEAR THE EQUIPMENT AND IS EASILY ACCESSIBLE.**

CAUTION

DANGER OF EXPLOSION EXISTS IF THE BATTERY IS INCORRECTLY REPLACED. REPLACE THE BATTERY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE BATTERY MANUFACTURER. DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

SAVE THESE INSTRUCTIONS

Other Information

- This product is only for connection behind a suitable PBX and should not be connected directly to the network.
- Panasonic Communications Co., Ltd. declares that the KX-TVM50E/KX-TVM200E and KX-TVM50NE/KX-TVM200NE are in compliance with the essential requirements and other relevant provisions of Radio & Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC.

  Declarations of Conformity for the relevant Panasonic products described in this manual are available for download by visiting:

  http://doc.panasonic.de

  Contact:

  Panasonic Services Europe GmbH

  Panasonic Testing Centre

  Winsbergring 15, 22525 Hamburg, F.R. Germany

CE

For Future Reference

Record the information in the space below for future reference.

Note

- The serial number of this product may be found on the label affixed to the side of the unit. You should note the serial number of this unit in the space provided and retain this manual as a permanent record of your purchase to aid in identification in the event of theft.

MODEL NO.	_____
SERIAL NO.	_____
DATE OF PURCHASE	_____
NAME OF DEALER	_____
DEALER'S ADDRESS	_____
	_____
	_____
	_____
DEALER'S TEL. NO.	_____

Introduction

Thank you for purchasing the Panasonic Voice Processing System KX-TVM50/KX-TVM200. We are confident that this product will provide your customer or client with many years of dependable service.

This Installation Manual is designed to serve as an overall technical reference for the KX-TVM50/KX-TVM200.
It provides instructions for installing the VPS hardware, configuring the connected PBX for use with the VPS, and getting started with the KX-TVM Maintenance Console software.

The Installation Manual is divided into the following sections:

Section 1 Voice Processing System Overview

This section provides a basic introduction to the VPS and its specifications. It briefly explains what the VPS can do, and how it is connected to and interacts with the PBX.

Section 2 Installation

This section explains how to install the VPS and its optional cards.

Section 3 Installing KX-TVM Maintenance Console

This section explains how to install KX-TVM Maintenance Console on a PC.

Section 4 APT/DPT Integration with a Panasonic KX-T Series PBX

This section explains how to configure Panasonic KX-T series PBXs to use APT/DPT Integration with the VPS.

Section 5 Inband Integration with a Panasonic KX-T Series PBX (KX-TVM50 only)

This section explains how to configure Panasonic KX-T series PBXs to use Inband Integration with the VPS.

Section 6 Customising the System

This section explains how to configure commonly used features of the VPS using KX-TVM Maintenance Console.

Section 7 System Maintenance and Troubleshooting

This section describes the recommended system maintenance procedures and how to troubleshoot programming-related issues.

Glossary

An alphabetical listing of features, terms, and abbreviations, as well as their definitions.

Index

An alphabetical listing of features and terms, as well as the page numbers of related sections.

About the Other Manuals

Along with this Installation Manual, the following manuals are available:

Feature Manual

The Voice Processing System Feature Manual is an overall reference describing VPS features. It explains what the VPS can do, and how to obtain the most of its many features. Sections from the Feature Manual are listed throughout this manual for your reference.

Programming Manual

The Voice Processing System Programming Manual is an overall reference for programming the VPS using KX-TVM Maintenance Console. It explains how to use KX-TVM Maintenance Console and obtain the most out of system administration. Sections from the Programming Manual are listed throughout this manual for your reference.

Subscriber's Manual

The Voice Processing System Subscriber's Manual describes how subscribers can access commonly used VPS features and functions with their extensions and mailboxes. Relevant sections from the Subscriber's Manual are listed throughout this manual for your reference.

Note

- This manual may refer to products not available in your country/area.
- Model number suffixes are omitted throughout this manual.
- For KX-TD500 and KX-TDA series PBXs, the term "trunk" used in this manual indicates a trunk group.

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- All other trademarks identified herein are the property of their respective owners.
- Screen shots reprinted with permission from Microsoft Corporation.

Precautions for Users in the United Kingdom

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5 amp fuse is fitted in this plug. Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark *or the BSI mark* *on the body of the fuse.*

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR PREMISES, THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt, please consult a qualified electrician.

WARNING

THIS APPLIANCE MUST BE EARTHED.

IMPORTANT

The wires in this mains leads are coloured in accordance with the following code:

Green-and-Yellow :	***Earth***
Blue :	***Neutral***
Brown :	***Live***

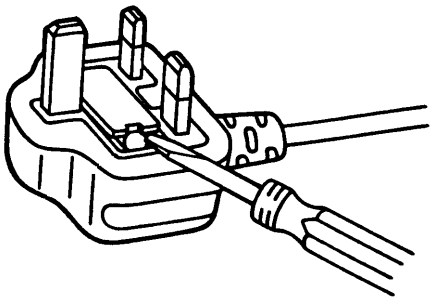
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire that is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug that is marked with the letter E or by the safety earth symbol ⏚ *or coloured GREEN or GREEN-AND-YELLOW.*

The wire that is coloured BLUE must be connected to the terminal that is marked with the letter N or coloured BLACK.

The wire that is coloured BROWN must be connected to the terminal that is marked with the letter L or coloured RED.

How to replace the fuse: *Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.*



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Section 1

Voice Processing System Overview

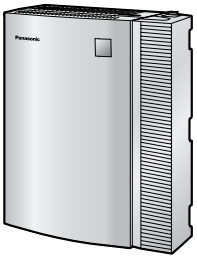
This section provides a basic introduction to the VPS and its specifications. It briefly explains what the VPS can do, and how it is connected to and interacts with the PBX.

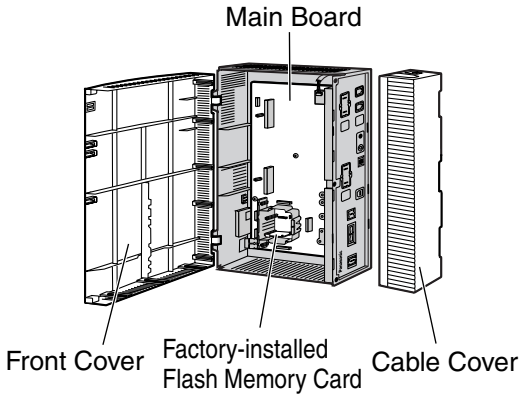
1.1 Basic System Construction

1.1.1 Main Unit

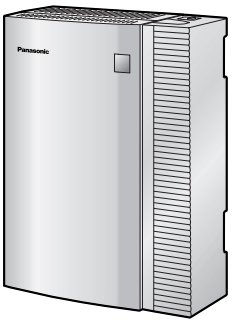
The KX-TVM50 is equipped with 2 jacks. Its flash memory card provides 4 hours of recording capacity. The KX-TVM200 does not provide factory-installed jacks. Its hard disk drive provides 1000 hours of recording capacity. Both systems can be expanded by adding optional service cards.

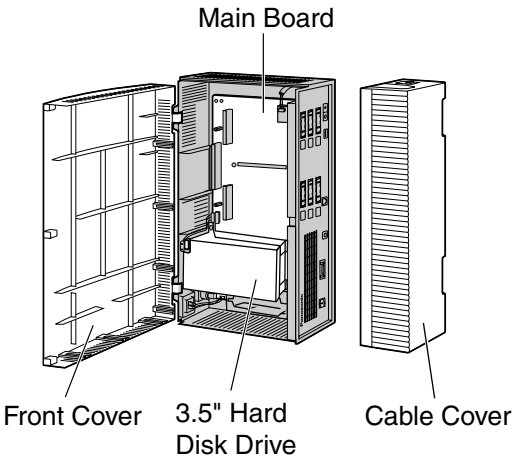
KX-TVM50



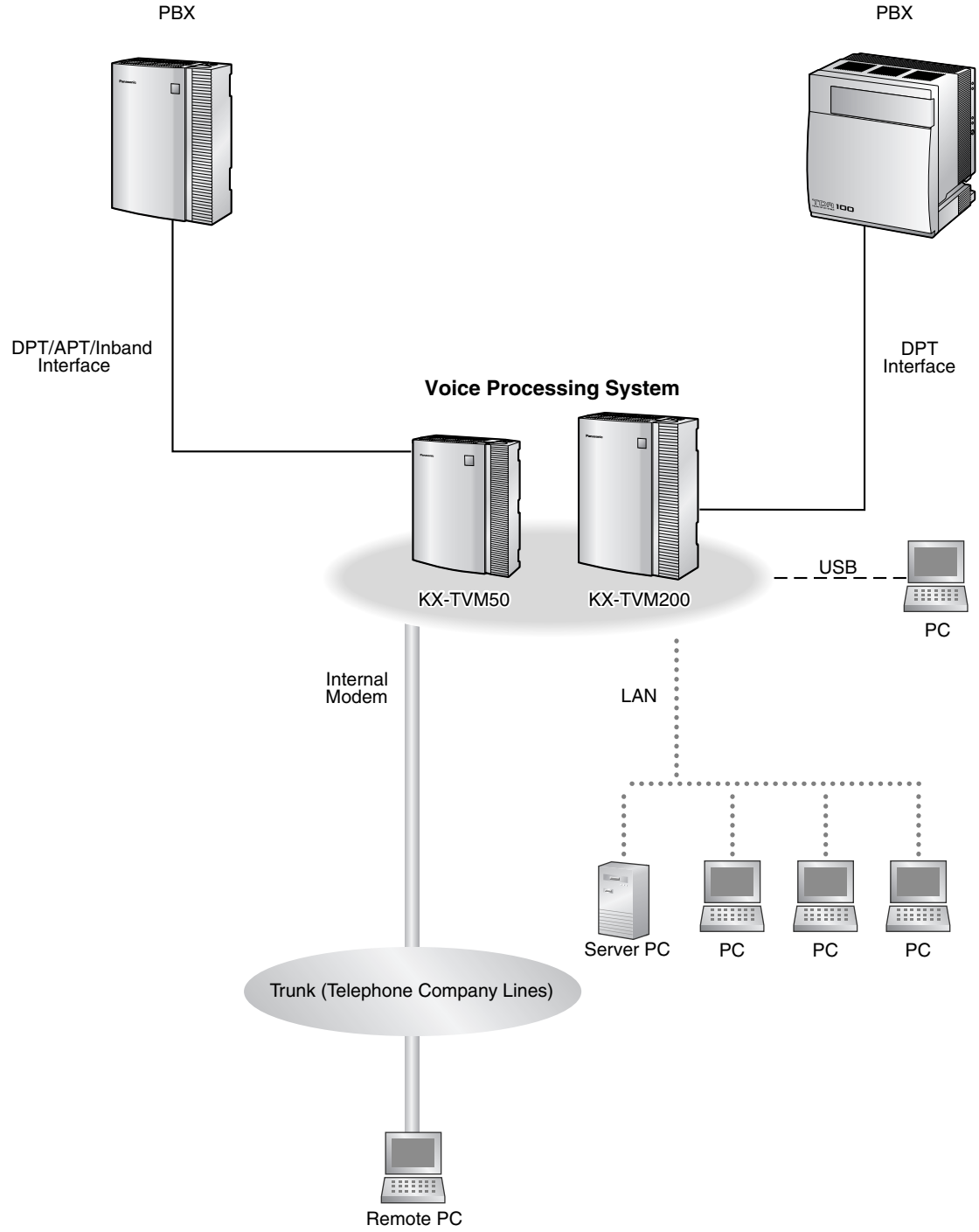


KX-TVM200





1.1.2 System Connection Diagram



1.1.3 Options

Optional Cards—KX-TVM50

Model	Model Name	Maximum Quantity
KX-TVM502	2-Port Hybrid Expansion Card	2
KX-TVM524	Memory Expansion Card	1
KX-TVM594	LAN Interface Card	1
KX-TVM296	Modem Card	1

Optional Cards—KX-TVM200

Model	Model Name	Maximum Quantity
KX-TVM204	4-Port Digital Expansion Card	6
KX-TVM296	Modem Card	1

1.1.4 Initial Configuration and Expansion Capabilities

Specification		KX-TVM50	KX-TVM200
No. of Ports	Initial Configuration	2	0
	Maximum	6	24
Recording Time	Initial Configuration	4 hours	1000 hours
	Maximum	8 hours	—

1.1.5 Installer Equipment and Software Requirements

The installer must use a PC and the KX-TVM Maintenance Console software to configure and customise the VPS. The PC can be connected via the built-in USB port of the VPS, or can access the VPS over a local network via the built-in LAN port (KX-TVM200) or an optional LAN Interface Card (KX-TVM50). Off-site programming is also possible provided an optional Modem Card is installed in the VPS.
For more information, see Section 3, Installing KX-TVM Maintenance Console.

1.1.6 Recommendations for System Configuration

In order for the VPS to handle calls smoothly, generally there should be 1 VPS port for every 6 trunks connected to the PBX. If Automated Attendant (AA) service is used, allotting 1 VPS port for every 4 trunks should be sufficient. If the PBX and VPS have heavy traffic and callers cannot reach the VPS because of congestion, more VPS ports should be added.
Recommendations are outlined in the following charts.

KX-TVM50

PBX		KX-TVM50	
No. of Trunks	**No. of Trunks When Using AA Service**	**No. of Ports**	**No. of Optional Port Cards**
1–6	1–4	1	0*
7–12	5–8	2	
13–18	9–12	3	1
19–24	13–16	4	
25–30	17–20	5	2
31–36	21–24	6	

* The factory-installed jacks should be sufficient.

KX-TVM200

PBX		KX-TVM200	
No. of Trunks	**No. of Trunks When Using AA Service**	**No. of Ports**	**No. of Optional Port Cards**
1–6	1–4	1	1
7–12	5–8	2	
13–18	9–12	3	
19–24	13–16	4	
25–30	17–20	5	2
31–36	21–24	6	
37–42	25–28	7	
43–48	29–32	8	
49–54	33–36	9	3
55–60	37–40	10	
61–66	41–44	11	
67–72	45–48	12	

PBX		KX-TVM200	
No. of Trunks	**No. of Trunks When Using AA Service**	**No. of Ports**	**No. of Optional Port Cards**
73–78	49–52	13	4
79–84	53–56	14	
85–90	57–60	15	
91–96	61–64	16	
97–102	65–68	17	5
103–108	69–72	18	
109–114	73–76	19	
115–120	77–80	20	
121–126	81–84	21	6
127–132	85–88	22	
133–138	89–92	23	
139–144	93–96	24	

1.1.7 Compatible PBXs

The VPS can be integrated with the following PBXs using the integration types listed below.

KX-TVM50

PBX Model	Recommended Integration Type	Other Integration Type
KX-TDA Series	DPT Integration	Inband Integration
KX-TD816	DPT Integration	Inband Integration
KX-TD1232	DPT Integration	Inband Integration
KX-TD500	DPT Integration	Inband Integration
KX-TD308	DPT Integration	Inband Integration
KX-TD612	DPT Integration	Inband Integration
KX-TA Series	APT Integration	Inband Integration
KX-TE Series	APT Integration*1	Inband Integration
Third-party Manufacturer	Inband Integration or No Integration	—

*1 For KX-TES824/TEM824, PBX software version 1.0.38 or later is required for APT Integration. Consult your dealer for more information.

KX-TVM200

PBX Model	Integration Type
KX-TDA Series	DPT Integration
KX-TD816	
KX-TD1232	
KX-TD500	
KX-TD308	
KX-TD612	

1.2 Voice Mail Integration

1.2.1 Overview

In order for the VPS to function, it must be integrated with the PBX it is connected to. The type of integration that is used determines how voice (caller messages, VPS prompts, etc.) and data (extension status, button presses, etc.) are sent between the VPS and the PBX.

DPT Integration

When the VPS and PBX use DPT Integration, voices and data are sent digitally. The most significant advantage of DPT Integration is that the 2B+D communication provides 2 VPS ports for each port. DPT Integration requires the proper software level in the PBX as well as 4-conductor connections for each jack. In order for the VPS to function properly using DPT Integration, the PBX and VPS must be programmed to work together. For a list of PBXs that are compatible with DPT integration, see 1.1.7 Compatible PBXs.

To use DPT Integration, the lowest numbered jack of the VPS must be connected to the lowest numbered jack assigned as a Voice Mail Port Assignment in the PBX. See the DPT connection example(s) for your VPS model in the following sections:

1.2.2 Connection Examples—KX-TVM50

1.2.3 Connection Examples—KX-TVM200

Connect the other jacks to the VPS in the same order as they are found in Voice Mail Port Assignment in the PBX.

APT Integration (TVM50 only)

When the VPS and PBX use APT Integration, voices are sent using analogue technology, and data is sent digitally. APT Integration requires the proper software level in the PBX as well as 4-conductor connections for each jack. In order for the VPS to function properly using APT Integration, the PBX and VPS must be programmed to work together. For a list of PBXs that are compatible with APT integration, see 1.1.7 Compatible PBXs.

Inband Integration (TVM50 only)

When the VPS and PBX use Inband Integration, voices are sent using analogue technology, and data is sent using analogue DTMF tones.

No Integration (TVM50 only)

When the VPS and PBX use no integration, voices are sent using analogue technology and data is sent to the VPS through the use of standard audio signals, such as DTMF tones, busy signals, ringback tones, etc.

1.2.2 Connection Examples—KX-TVM50

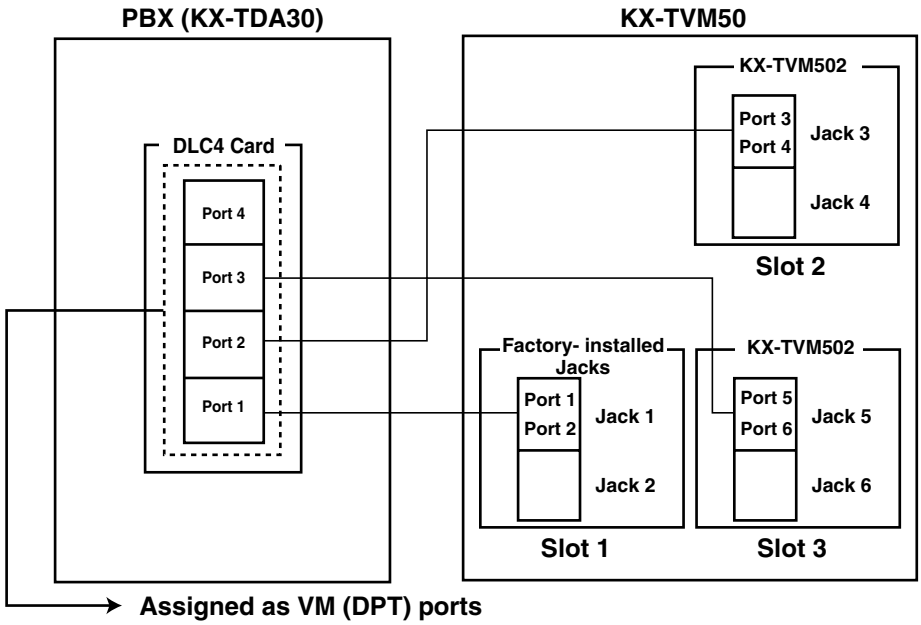
DPT Integration

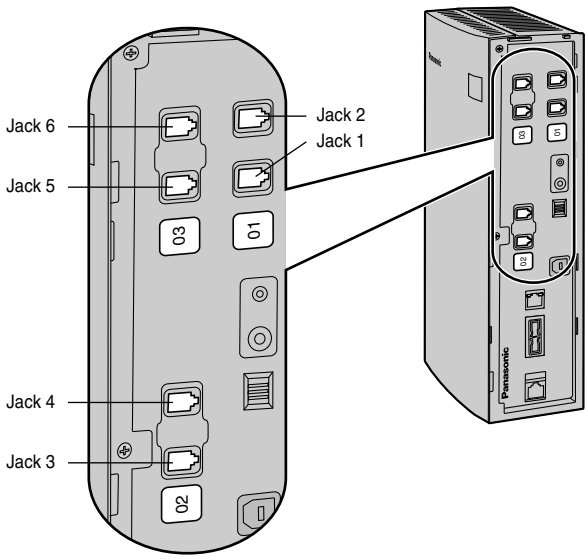
When using DPT Integration, VPS jacks are connected to the digital extension ports of the PBX. Note that only odd numbered VPS jacks (1, 3, and 5) can be used. Each of these VPS jacks provides 2 VPS ports and can handle 1 call per port.

Note

- For DPT Integration, the lowest numbered jack of the VPS must be connected to the lowest numbered port of the Voice Mail group assigned through PBX programming.

Connection Example (Factory-installed Jacks and KX-TVM502 × 2, DPT Integration Mode)





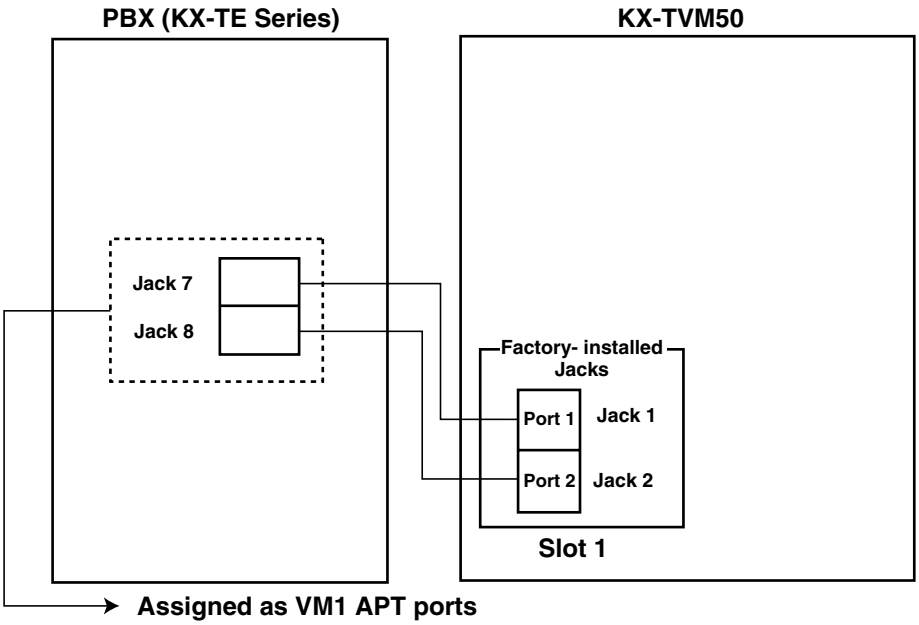
APT Integration

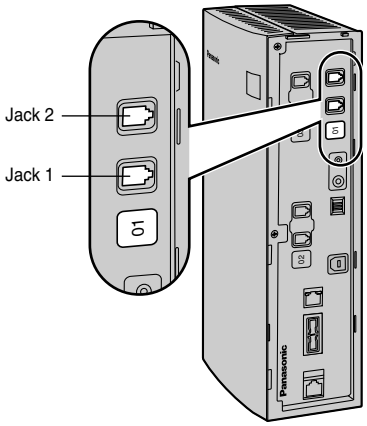
When using APT Integration, VPS jacks are connected to the hybrid extension jacks of the PBX. Each VPS jack provides 1 VPS port and can handle 1 call per port.

Note

- Jack 1 must be connected to the PBX.

Connection Example (Factory-installed Jacks, APT Integration Mode)





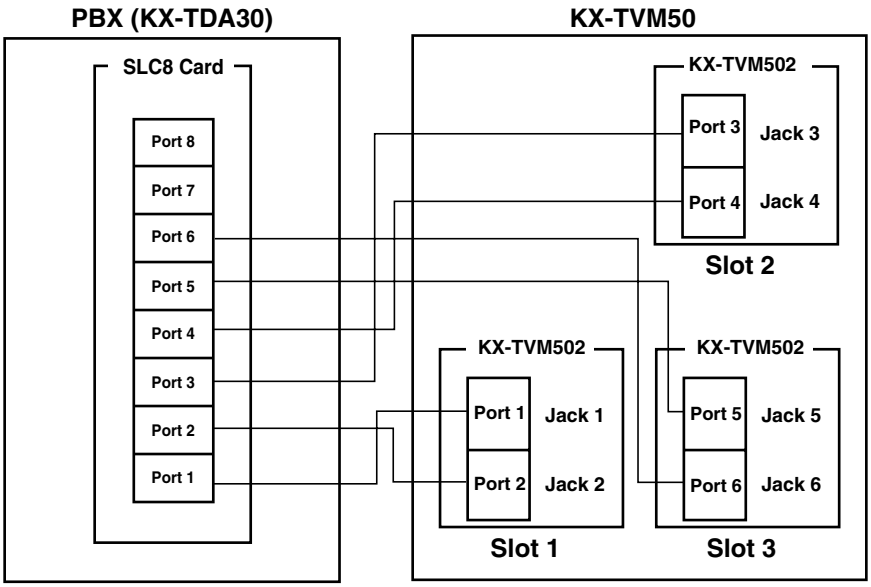
Note

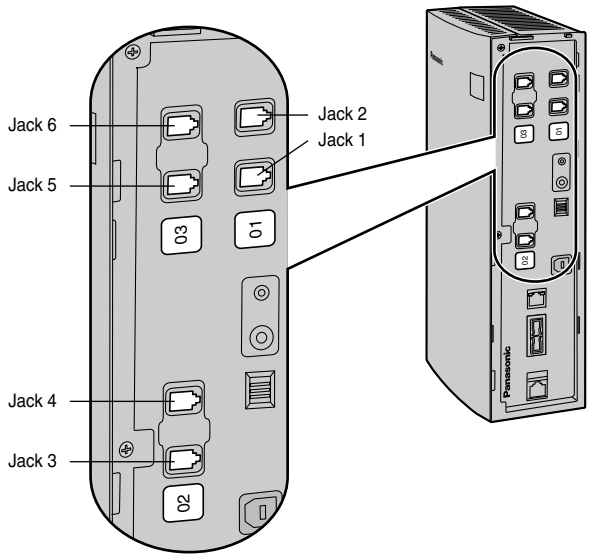
- A maximum of 2 VPS jacks can be connected to the PBX.

Inband/No Integration

When using Inband/No Integration, VPS jacks are connected to the SLT ports of the PBX. Each VPS jack provides 1 VPS port and can handle 1 call per port.

Connection Example (Factory-installed Jacks and KX-TVM502 × 2, Inband/No Integration Mode)





1.2.3 Connection Examples—KX-TVM200

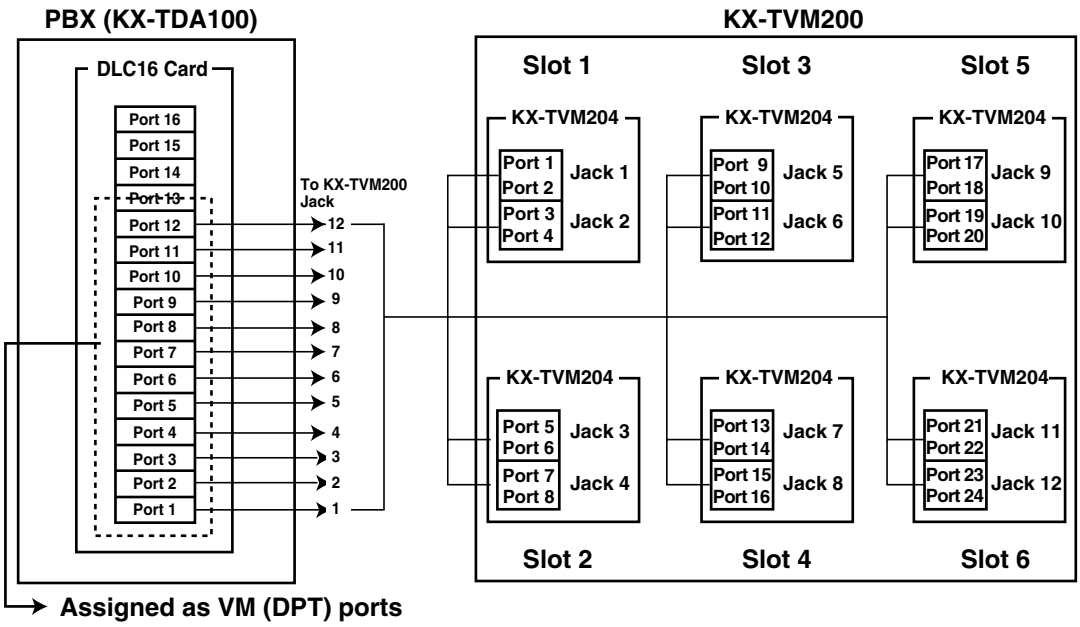
DPT Integration

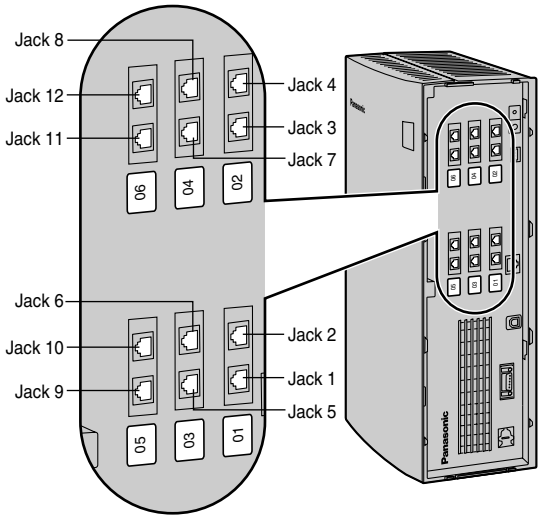
The KX-TVM200 supports DPT Integration only, therefore it must be connected to the digital extension ports of the PBX. Each VPS jack provides 2 VPS ports and can handle 1 call per port.

Note

- For DPT Integration, the lowest numbered jack of the VPS must be connected to the lowest numbered port of the Voice Mail group assigned through PBX programming.

Connection Example (KX-TVM204 × 6, DPT Integration Mode)





1.3 Specifications

Specification		KX-TVM50	KX-TVM200
Hardware	Available Port Cards	2-Port Hybrid Expansion Card (KX-TVM502)	4-Port Digital Expansion Card (KX-TVM204)
	Number of Port Card Slots	2	6
	Additional PBX Interface	—	VM Link (currently unavailable)
	Data Ports	USB (built-in) LAN (optional) Modem (optional)	USB (built-in) LAN (built-in) Modem (optional)
	Additional Hardware	Mode Switch	
	Telephone Line Connections	• APT/DPT Integration: 4-conductor cable • Inband/No Integration: 2-conductor cable	4-conductor cable
	Message Recording Medium	Flash Memory	Internal Hard Disk Drive (HDD)
	Recording Capacity	4 h (expandable to 8 h)*1	1000 h
	Main CPU	32-bit microprocessor	
	Compression Rate	32 Kbps	
	Internal Modem Type	V.90	
	Dialling Method	DTMF	
	Flash Time	100 ms/300 ms/600 ms/900 ms (programmable)	–
	CPC Detection	None/6.5 ms/150 ms/300 ms/450 ms/600 ms (programmable)	–
	Line Type	• Loop start minimum Loop Current: 20 mA • Minimum Line Voltage: 7 V DC • Minimum Ringing Voltage: 40 V AC	–
	Extension Numbering	2 to 5 digits (programmable)	
	Pause Length	100 ms to 9900 ms (programmable)	
	Message Waiting Lamp	• APT/DPT Integration: Data Line of APT/DPT Interface • Inband Integration: Programmable DTMF sequence	Data Line of DPT Interface

Specification		KX-TVM50	KX-TVM200
Software	Custom Services	Up to 100	
	Number of Messages	Unlimited	
	Length of Personal Greeting Message	Up to 360 s (programmable)	
	Message Retention Time	1 to 30 days, unlimited (programmable)	
	Maximum Message Length	1 to 60 min, unlimited (programmable)	
	Maximum Combined Length of Messages per Mailbox	1 to 600 min, unlimited (programmable)	
	No. of Mailboxes	62 Subscriber + 2 Manager	1022 Subscriber + 2 Manager
	Reports	Mailbox Information, Call Account, Port Usage, Memory Usage, Mailbox Usage, Fax Call, Call Handling Statistic, Custom Service, Message Status, Subscriber Setup, Security Information, Hourly Statistics, E-mail	Mailbox Information, Call Account, Port Usage, HDD Usage, Mailbox Usage, Fax Call, Call Handling Statistic, Custom Service, Message Status, Subscriber Setup, Security Information, Hourly Statistics, E-mail
Environment	Environmental Requirements	5 ˚C to 40 ˚C	Refer to "Environmental Requirements", 2.1 Before Installation
	Power Source	100 V AC to 240 V AC, 0.25 A, 50 Hz/60 Hz	100 V AC to 240 V AC, 1.5 A, 50 Hz/60 Hz
	DC Input	9 V, 0.75 A (6.75 W)	40 V, 1.38 A (55.2 W)
	Dimensions (W × H × D)	249 mm (W) × 316 mm (H) × 73 mm (D)	275 mm (W) × 376 mm (H) × 117 mm (D)
	Weight (when all available option cards are installed)	No more than 1.7 kg	No more than 4.0 kg

*1 The recording capacity specification shown here for the KX-TVM50 applies to when 1 System Prompt language is installed. Recording capacity is reduced by about 1 hour for each additional System Prompt language that is installed.

Section 2
Installation

This section explains how to install the VPS and its optional cards.

2.1 Before Installation

Please read the following precautions before installing the VPS.

Installation Precautions

The VPS should be wall-mounted. Improper placement of the system may result in malfunction, noise, or discolouration. Avoid installing the VPS in the following places:

- in direct sunlight; in hot, cold, or humid places
- in areas where sulphuric gas can damage the equipment (e.g., areas near thermal springs, etc.)
- where shocks or vibrations are frequent or strong
- in dusty places or places where water or oil may come in contact with the unit
- near high frequency generating devices such as sewing machines, elevators or electric welders
- on or near computers or other office equipment, microwave ovens, or air conditioners (Ideally, the VPS should not be installed in the same room with any of these items, and should be at least 2 m away from televisions.)

Do not obstruct the areas around the PBX and the VPS. Both require open space above the unit for cooling and space on the sides for maintenance and inspection.

Wiring Precautions

Be sure to follow these instructions when wiring.

- Do not wire the telephone cable parallel to an AC power source, computer, etc. If cables are run near those wires, shield them with metal tubing or use shielded cables and earth the shields.
- Use protectors if running cables on the floor. Avoid running cables under carpets.
- Avoid sharing the power supply to the VPS with computers or other office equipment. Induction noise from such equipment may interrupt the VPS operation.

When making any connections or removing the cover, be sure the power switch is turned off.

When installing telephone wiring, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Note

- If you live in an area that has frequent power failures, we strongly recommend connecting the VPS and PBX to an uninterruptible power supply (UPS). Use only a UPS which can provide adequate power supply to all connected devices. Refer to the specifications for the power rating of your VPS and PBX.

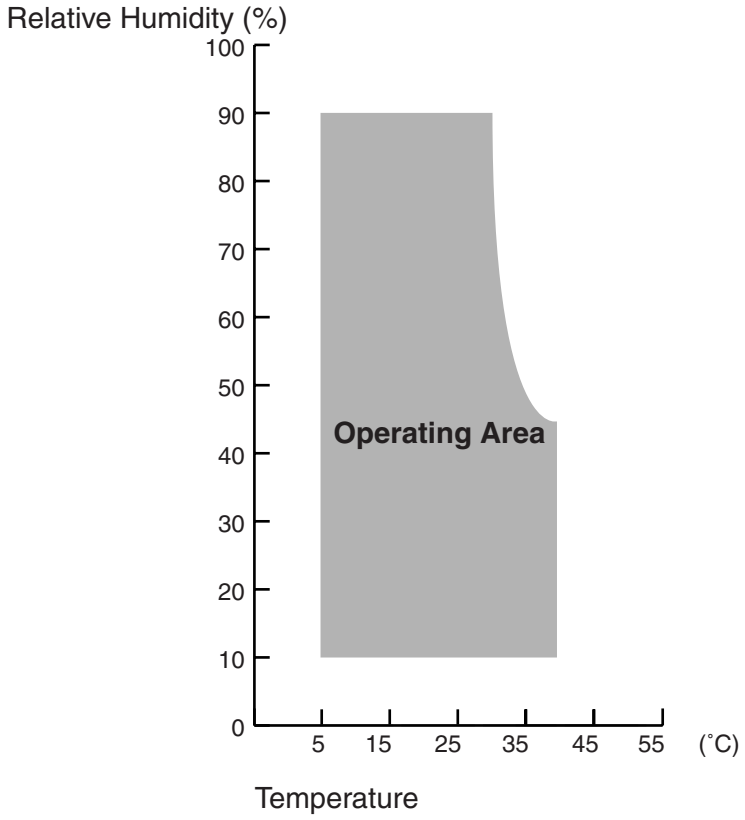
Environmental Requirements (KX-TVM200 only)

The hard disk drive is sensitive to cold, heat, dryness, humidity, shock, vibration, and magnetic fields. Please observe the conditions specified below.

Hard Disk Drive Usage Environment

Operating Temperature:	5 ˚C to 40 ˚C
Operating Humidity:	See the graph below.
Shock:	Under 5 G
Vibration:	5 Hz to 22 Hz : 0.0042 cm displacement; double amplitude, 1 octave per minute. 23 Hz to 350 Hz : Under 0.5 G
Magnetic Field:	DC : 0.6 mT to 700 kHz : 0.7 µT 700 kHz to 1.5 MHz : 3 µT

Allowable Relative Humidity vs. Temperature



Necessary Tools (not supplied)

Twisted pair 4-conductor cables are needed for connecting the VPS to the PBX. For the KX-TVM50, twisted pair 2-conductor cables are needed if using Inband or None Integration.

A USB cable is needed when connecting the VPS to the PC that will used for programming via the KX-TVM Maintenance Console.

2.2 Unpacking

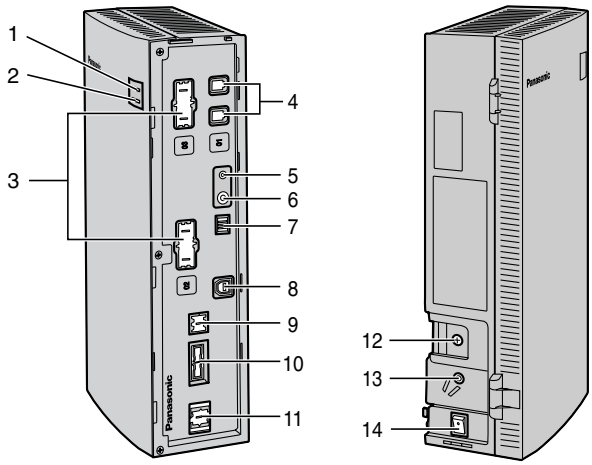
The following items are included with the VPS.

	KX-TVM50	KX-TVM200
Main Unit	1	1
AC Adaptor	1	1
AC Cord	1	1
Screws (Wall Mounting)	5	5
Washers (Wall Mounting)	5	5
Cable strap	1	1
CD-ROM	1	1

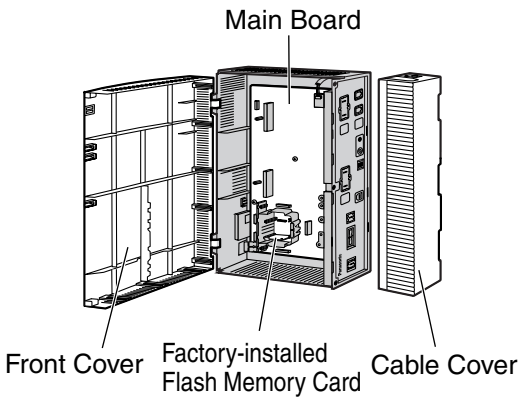
2.3 Names and Locations

Outside/Inside View

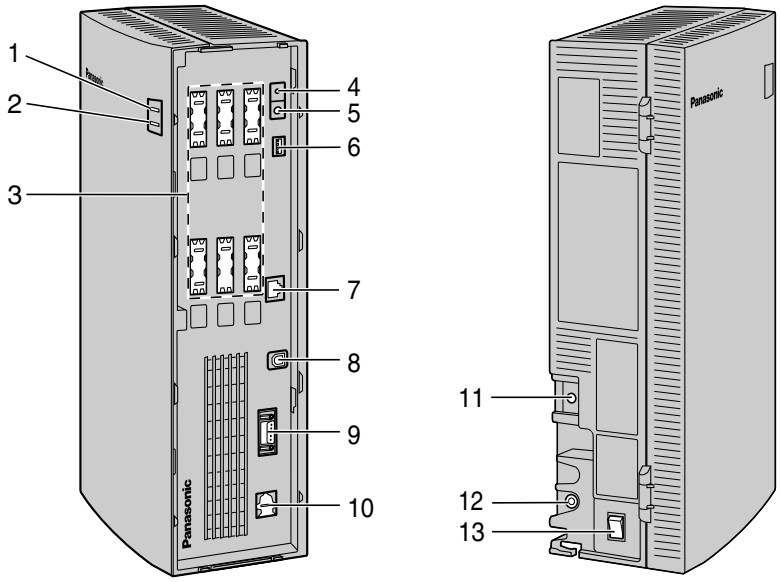
KX-TVM50



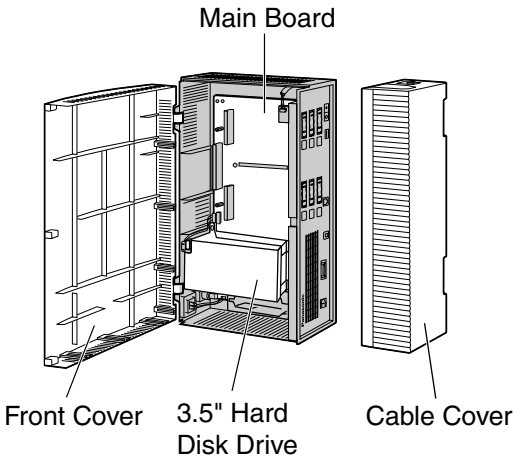
1. Run Indicator
2. Alarm Indicator
3. Dummy Cover Plates (for Port Card Slots 2 and 3)
4. Factory-installed Jacks
5. Reset Button
6. Shutdown Button
7. Mode Switch
8. USB Port
9. Dummy Cover Plate (for LAN Interface Card)
10. Dummy Cover Plate (Reserved)
11. Dummy Cover Plate (for Modem Card)
12. Earth Terminal
13. DC IN
14. Power Switch



KX-TVM200



1. Run Indicator
2. Alarm Indicator
3. Dummy Cover Plates (for Port Card Slots 1 to 6)
4. Reset Button
5. Shutdown Button
6. Mode Switch
7. LAN Port
8. USB Port
9. VM-Link
10. Dummy Cover Plate (for Modem Card)
11. Earth Terminal
12. DC IN
13. Power Switch



System Components

Run Indicator

Lights during normal operation; flashes when the system is off-line and cannot receive calls.

Alarm Indicator

Flashes when a system error is detected or while the VPS is preparing to shutdown. Lights when the shutdown procedure is complete.

Reset Button

Resets the VPS.

Note

- Make sure the VPS is not in use before pressing the Reset Button.

Shutdown Button

Initiates the shutdown procedure. When the Alarm Indicator lights after pressing the Shutdown Button, you may safely turn off the power switch.

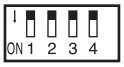
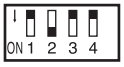
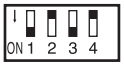
Note

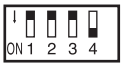
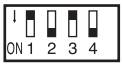
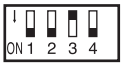
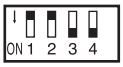
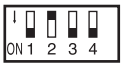
- Make sure the VPS is not in use before pressing the Shutdown Button.

Mode Switch

Used to perform one of several administration/service operations by selecting one of 16 switch positions. After setting the Mode Switch to the appropriate position, shut down and restart the VPS. Change the position of the switches by using the tip of a pointed object, such as a pen.

The available Mode Switch positions are shown in the following table. The black area in the switch illustration indicates the direction of the switch.

Switch Position	Operation
0 	Puts the VPS in normal mode.
1	Reserved
2 	Puts the VPS in DPT Integration mode. Auto Configuration starts and all ports are set to provide Automated Attendant service.
3	Puts the VPS in DPT Integration mode. Auto Configuration starts and all ports are set to provide Voice Mail service.
4	Reserved
5 	Initialises the VPS. All settings are reset to their default values. **Recorded messages are erased**. System Prompts (including customised prompts) are preserved.
6	*KX-TVM200 only* Puts the VPS in hard disk test mode.
7	Reserved

Switch Position	Operation
8 	*KX-TVM200 only* Initialises the VPS. All settings are reset to their default values. **Recorded messages and customised prompts are erased.** All System Prompts are reset to their defaults. **CAUTION** All user-recorded prompts are erased.
9	Reserved
10 	*KX-TVM50 only* Puts the VPS in APT Integration mode. Auto Configuration starts and all ports are set to provide Automated Attendant service.
11 	*KX-TVM50 only* Puts the VPS in APT Integration mode. Auto Configuration starts and all ports are set to provide Voice Mail service.
12 	Primary Language will be set to use Language 1 prompts.*1
13 	Primary Language will be set to use Language 2 prompts.*1
14	Primary Language will be set to use Language 3 prompts.*1
15	Reserved

*1 If the selected language has no prompts, no prompts will be heard.

When setting the Mode Switch to any position (except 0):

1. Disconnect the port cables from the VPS.
2. Turn the power switch off.
3. Set the Mode Switch.
4. Turn the power switch back on.
5. Connect the port cables.
6. Confirm that the Run Indicator blinks the same number of times as the Mode Switch position (e.g., 5 blinks for switch position 5, etc.).
   - This may take several minutes. The Alarm Indicator and Run Indicator will first blink intermittently before the Run Indicator blinks to indicate the Mode Switch position.
7. Turn the power switch off at the VPS.
8. Set the Mode Switch to position 0.
9. Turn the power switch back on at the VPS.

LAN Port (Optional for KX-TVM50)

Used to access the VPS over an Ethernet network.

USB Port

Used to access the VPS via USB.

VM Link (Currently unavailable)

A VPS-PBX connection interface to be implemented in the future via software upgrade.

Earth Terminal

Must be connected to an earth source with less than 1 Ω resistance.

DC IN

Used to supply power to the VPS from the AC Adaptor.

Power Switch

Starts the system and begins the self-test.

SAFETY PRECAUTION: When making any connections or removing the cover, be sure the power switch is turned off.

Factory Installed Flash Memory Card (KX-TVM50 only)

Stores all system programming and system prompts, and allows up to 4 hours of message recording time.

Hard Disk Drive (KX-TVM200 only)

Stores all system programming and system prompts, and allows up to 1000 hours of message recording time.

Note

- The actual hard disk drive mounted on your VPS may look different from the ones illustrated in this manual.

2.4 Installation Overview

The following is an overview of the steps needed to install optional cards and prepare the VPS hardware for use. Once hardware installation is complete, see Customising the System for instructions on software setup and VPS customisation.

CAUTION

The information below is only intended as an overview of the installation process. When installing the VPS, refer to the sections listed below for detailed instructions.

1. Open the covers (see 2.5 Opening/Closing the Covers).
2. Remove the Dummy Cover Plates (see 2.6 Removing the Dummy Cover Plates).
3. Install the optional cards (see 2.7 Installing Optional Cards—KX-TVM50 or 2.8 Installing Optional Cards—KX-TVM200).
4. Connect the VPS to the appropriate extension ports of the PBX (see 1.2.2 Connection Examples—KX-TVM50 or 1.2.3 Connection Examples—KX-TVM200). Use 4-conductor or 2-conductor cable as necessary (see 2.9 PBX Connections).
5. Connect the VPS to the PC to be used for programming (see 2.10 PC Connection).
6. Connect the VPS to earth (see 2.11 Frame Earth Connection).
7. Connect the AC adaptor to the VPS and to the power outlet (see 2.12 Connecting the AC Adaptor).

CAUTION

The power cord is the main disconnect device. Make sure that the power outlet is located near the VPS and is easily accessible.

8. Secure the cables (see 2.13 Securing the Cables).
9. Initialise the VPS (see 2.14 Initialising the VPS During Installation).
10. Close the covers (see 2.5 Opening/Closing the Covers).
11. Wall mount the VPS and AC adaptor (see 2.15 Wall Mounting).

CAUTION

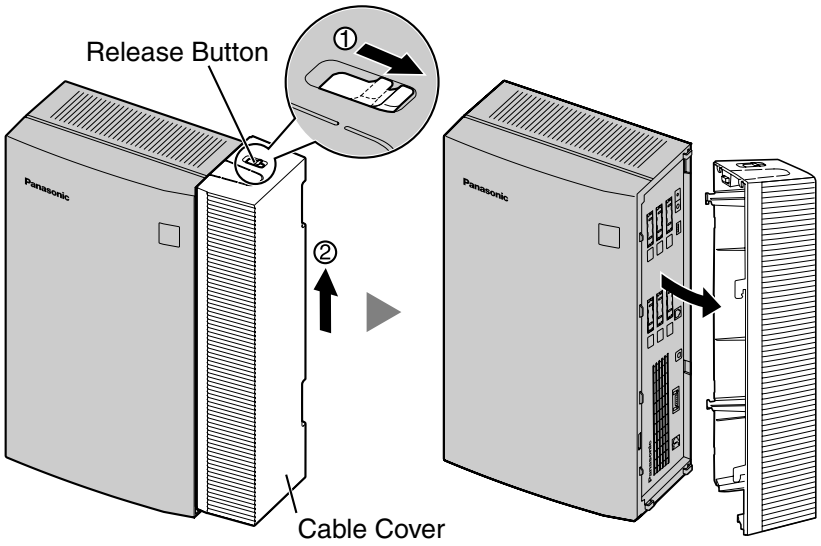
To turn off the power on the VPS, first press the Shutdown button, wait for the Alarm Indicator to light, then turn off the power switch. Turning off the power switch before the Alarm Indicator lights may cause the VPS to take an exceptionally long time (up to 10 minutes) to start up the next time the power is turned on.

2.5 Opening/Closing the Covers

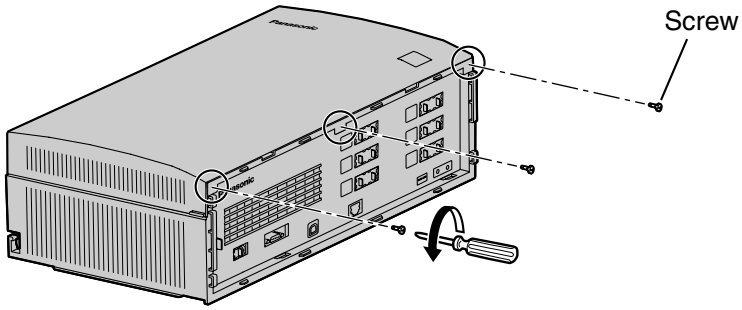
The model shown here is the KX-TVM200, however this procedure is the same for the KX-TVM50.

Opening the Covers

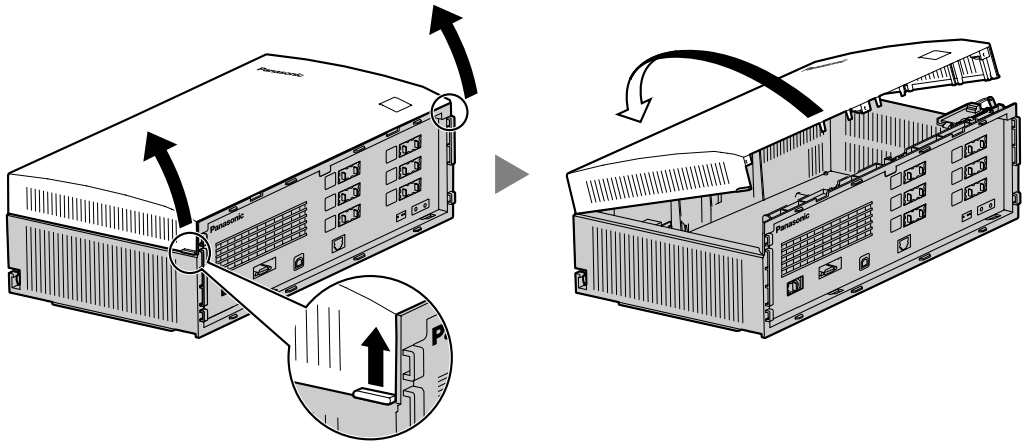
1. Push the release button in the direction shown below (1), and slide the cable cover in the direction shown below (2). Turn the cable cover away from the unit and remove it.



2. Remove the 3 screws.



3. While holding both tabs located on the sides of the front cover, swing the cover open as shown.

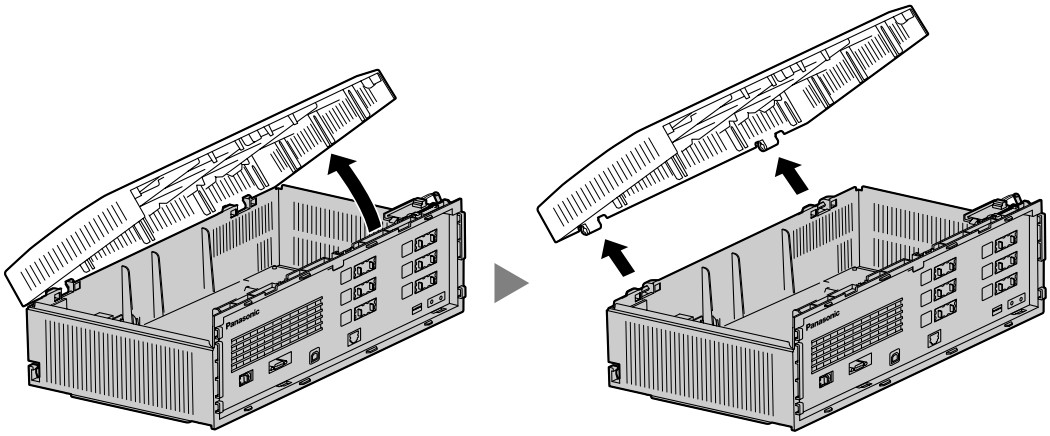


Removing/Attaching the Front Cover

You may also detach the front cover from its hinges.

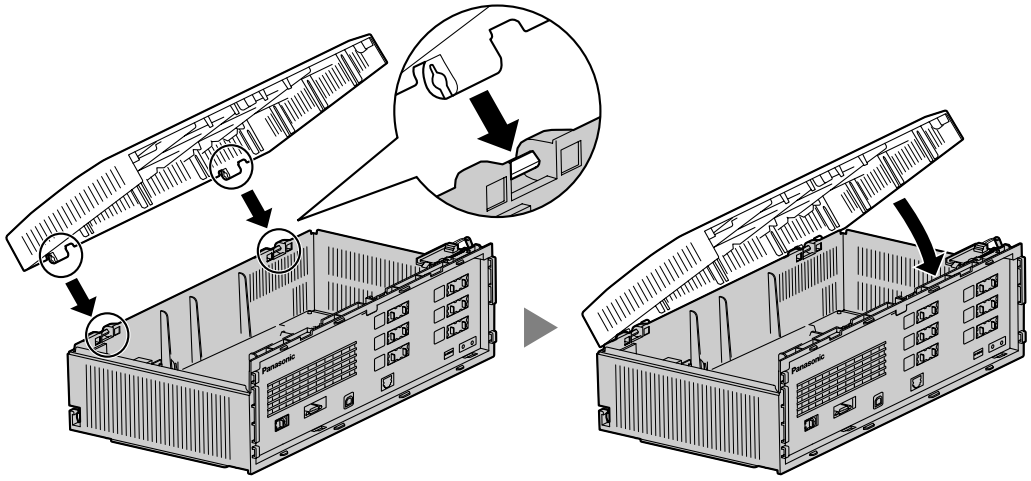
Removing the Front Cover

While holding the front cover open at a 45˚ angle, lift the cover away from the unit as shown.



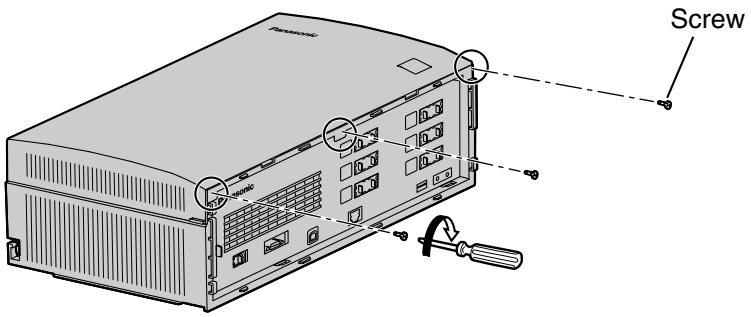
Attaching the Front Cover

Fit the front cover to the main unit as shown below, then close the front cover.

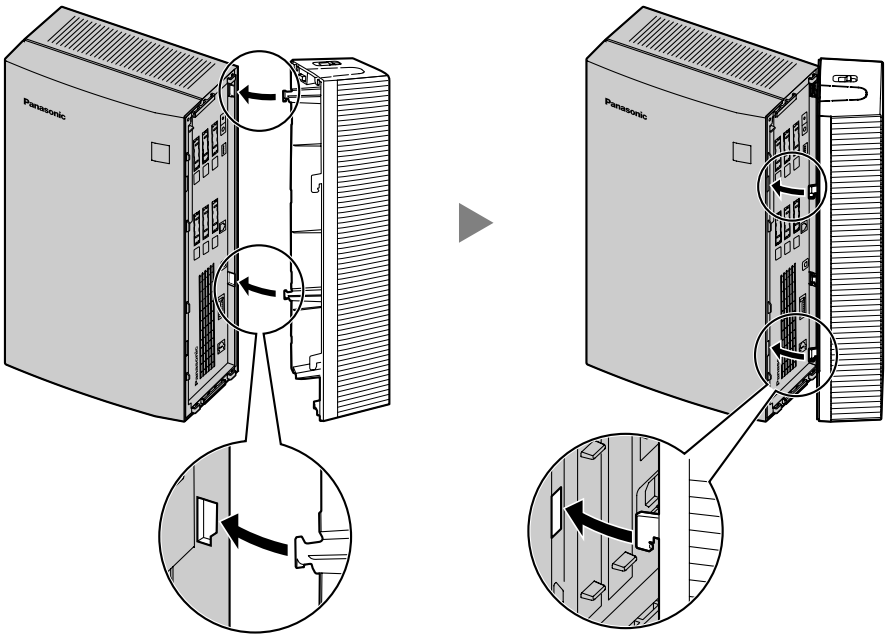


Closing the Covers

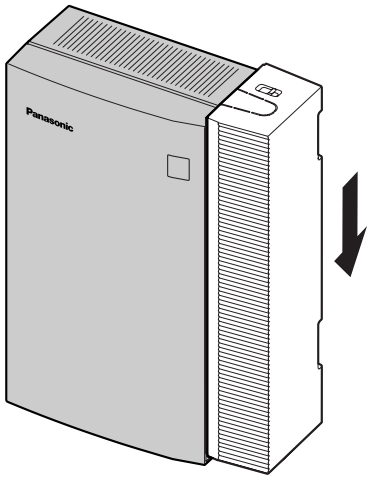
1. Close the front cover, then tighten the 3 screws.



2. Attach the rear hooks on the cable cover to the main unit, then swing the cable cover closed so that the front hooks fit in place.



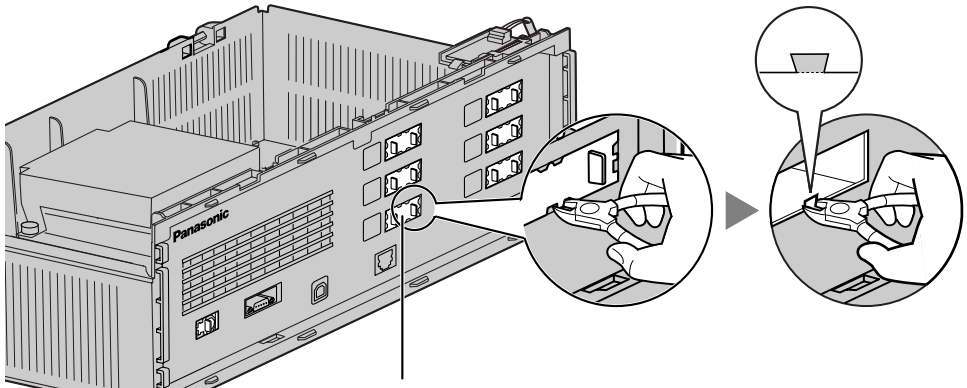
3. Slide the cable cover down until it locks.



2.6 Removing the Dummy Cover Plates

Before installing optional cards, cut and remove the appropriate dummy cover plates from the main unit using cutting pliers, as shown below.

The model shown here is the KX-TVM200, however this procedure is the same for the KX-TVM50.



CAUTION

For safety reasons, smooth the cut edges after removing the dummy cover plates.

2.7 Installing Optional Cards—KX-TVM50

The KX-TVM50 can be expanded by installing the following optional cards.

Model	Model Name	Maximum Quantity
KX-TVM502	2-Port Hybrid Expansion Card	2
KX-TVM524	Memory Expansion Card	1
KX-TVM594	LAN Interface Card	1
KX-TVM296	Modem Card	1

CAUTION

Before installing optional cards, it is very important that the power to the unit be turned off. Before touching the optional cards or any components within the unit, discharge any static electricity from your body by touching the earth terminal (if it is connected to earth) or by using an earthing strap (user-supplied). This is a critical step that must be performed to protect the circuit board and other components from damage caused by static electricity.

2.7.1 2-Port Hybrid Expansion Card (KX-TVM502)

Each KX-TVM502 adds 2 ports to the VPS which can be used for DPT, APT, Inband, or No Integration. KX-TVM502 cards can be installed in slots 2 and 3 of the VPS.

Integration Type	Basic Configuration		Maximum Configuration KX-TVM502 x 2	
	No. of Useable Jacks*	No. of Ports	No. of Useable Jacks*	No. of Ports
DPT Integration	1	2	3 (1 per card)	6
APT Integration	2	2	6	6
Inband/No Integration	2	2	6	6

* When using DPT Integration, only odd numbered jacks (1, 3, and 5) can be used. Each jack provides 2 VPS ports.

Included Items

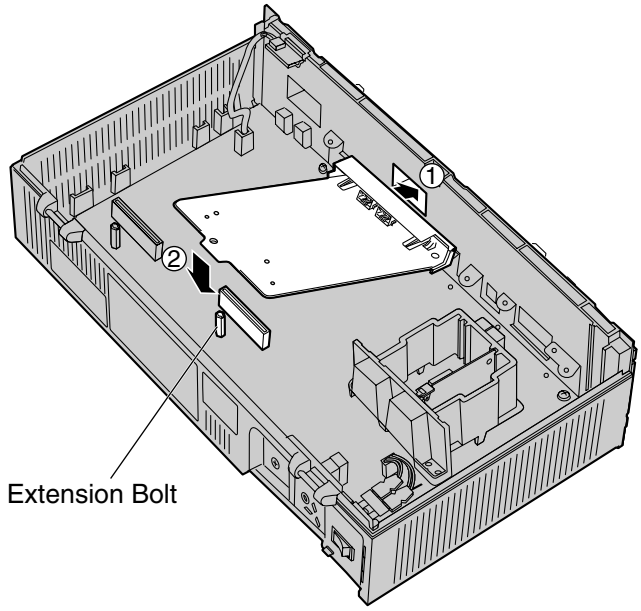
Screws × 2

Installation

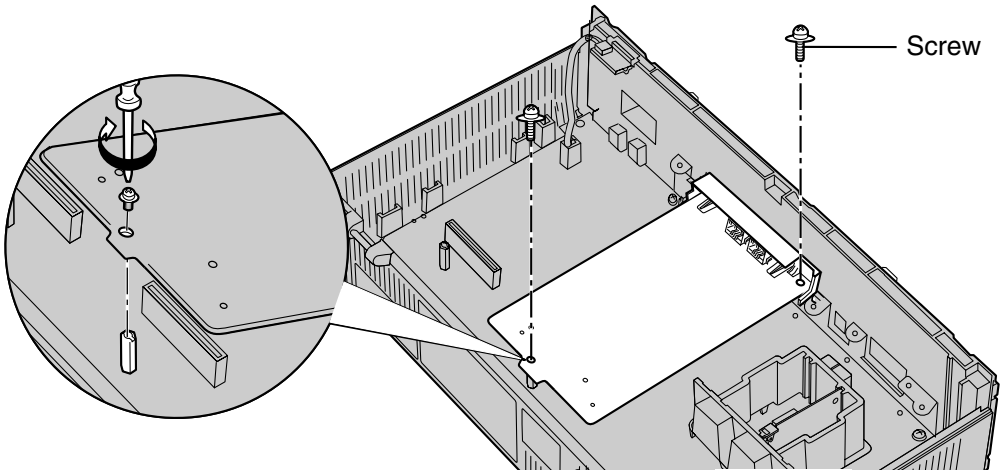
1. Position the front of the card so that the jacks fit in the open slot. Holding the card firmly in place, lower the other end of the card so that the card's hole fits over the extension bolt.

CAUTION

When installing optional cards, do not put pressure on the main board. Doing so may result in damage to the VPS.



2. Insert and tighten the screws as shown.



Note

- The KX-TVM502 operates at SELV.

2.7.2 Memory Expansion Card (KX-TVM524)

The KX-TVM524 adds an additional 4 hours of recording time to the VPS.

Included Items

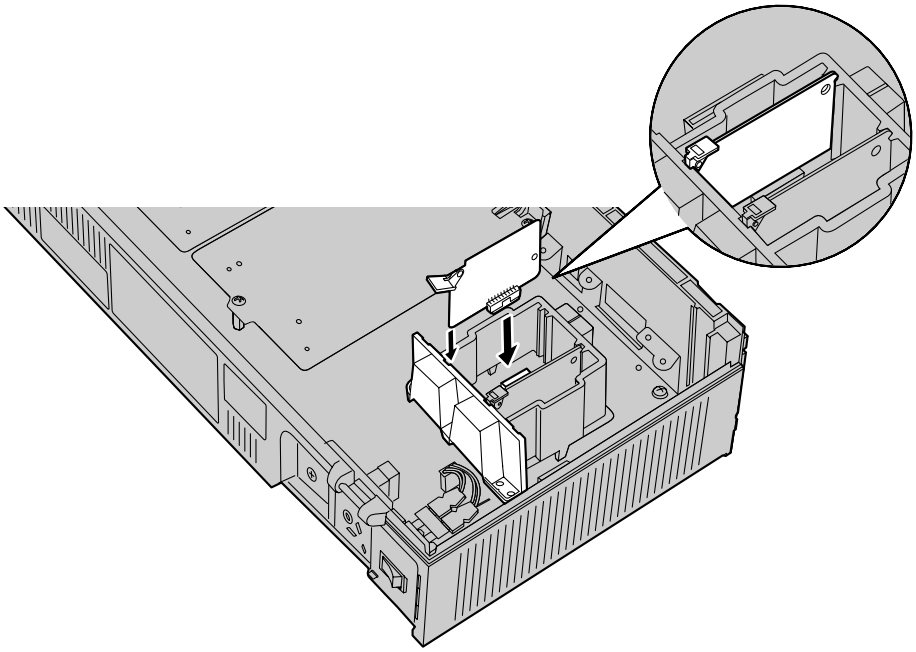
None

Installation

1. Insert the card between the guide rails and slide it down as shown.
2. Secure the latch by flipping it toward the centre of the card and slightly pressing down on it.

CAUTION

When installing optional cards, do not put pressure on the main board. Doing so may result in damage to the VPS.



2.7.3 LAN Interface Card (KX-TVM594)

The KX-TVM594 allows the VPS to be accessed over a local area network (LAN) for administration purposes.

Included Items

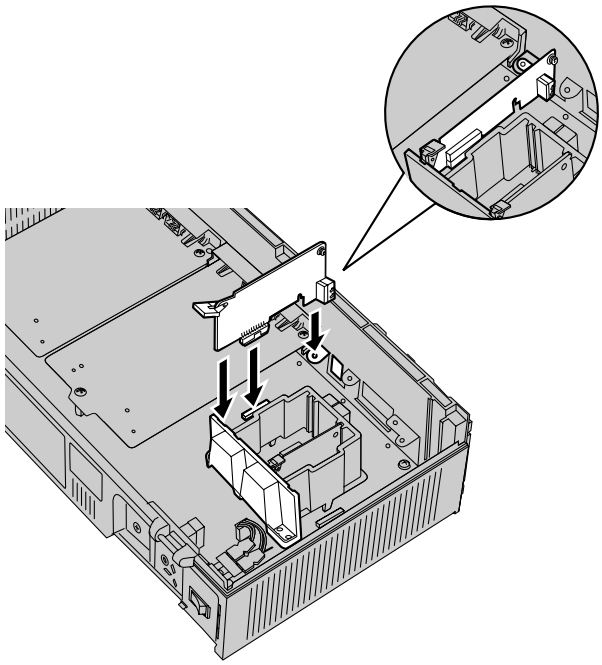
Screw × 1

Installation

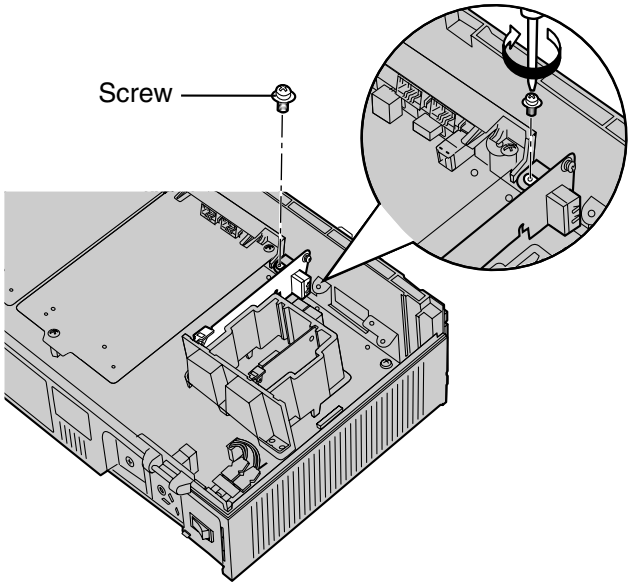
1. Insert the card between the guide rails and slide it down as shown.
2. Secure the latch by flipping it toward the centre of the card and slightly pressing down on it.

CAUTION

When installing optional cards, do not put pressure on the main board. Doing so may result in damage to the VPS.



3. Insert and tighten the screw as shown.



2.7.4 Modem Card (KX-TVM296)

The KX-TVM296 allows the VPS to be accessed remotely for administration purposes.

Included Items

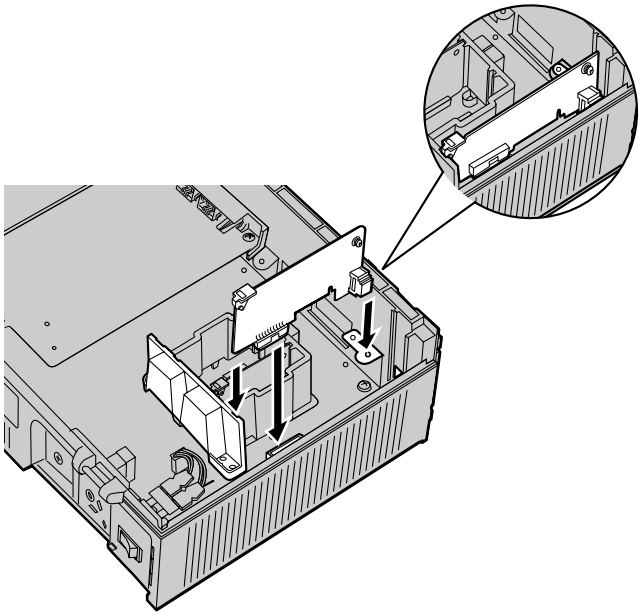
Screw × 1

Installation

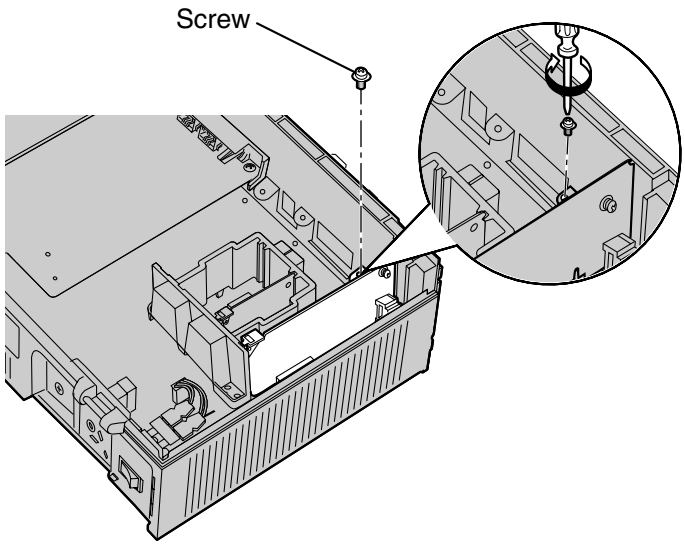
1. Insert the card between the guide rails and slide it down as shown.
2. Secure the latch by flipping it toward the centre of the card and slightly pressing down on it.

CAUTION

When installing optional cards, do not put pressure on the main board. Doing so may result in damage to the VPS.



3. Insert and tighten the screw as shown.



Note

- The KX-TVM296 operates at TNV.

2.8 Installing Optional Cards—KX-TVM200

The KX-TVM200 can be expanded by installing the following optional cards.

Model	Model Name	Maximum Quantity
KX-TVM204	4-Port Digital Expansion Card	6
KX-TVM296	Modem Card	1

CAUTION

Before installing optional cards, it is very important that the power to the unit be turned off. Before touching the optional cards or any components within the unit, discharge any static electricity from your body by touching the earth terminal (if it is connected to earth) or by using an earthing strap (user-supplied). This is a critical step that must be performed to protect the circuit board and other components from damage caused by static electricity.

2.8.1 4-Port Digital Expansion Card (KX-TVM204)

Each KX-TVM204 adds 4 ports to the VPS which can be used for DPT Integration. KX-TVM204 cards can be installed in slots 1 to 6 of the VPS.

Integration Type	Basic Configuration		Maximum Configuration (KX-TVM204 x 6)	
	No. of Jacks	No. of Ports	No. of Jacks	No. of Ports
DPT Integration	0	0	12	24 (2 per jack)

Included Items

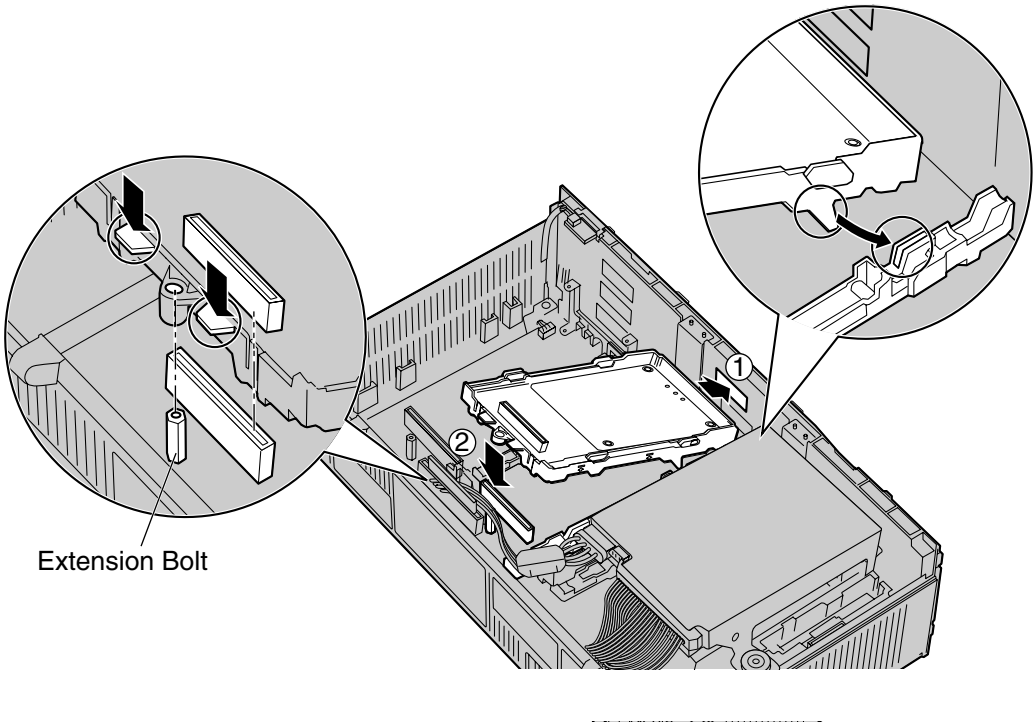
Extension Bolt × 3, Screw × 3

Installation

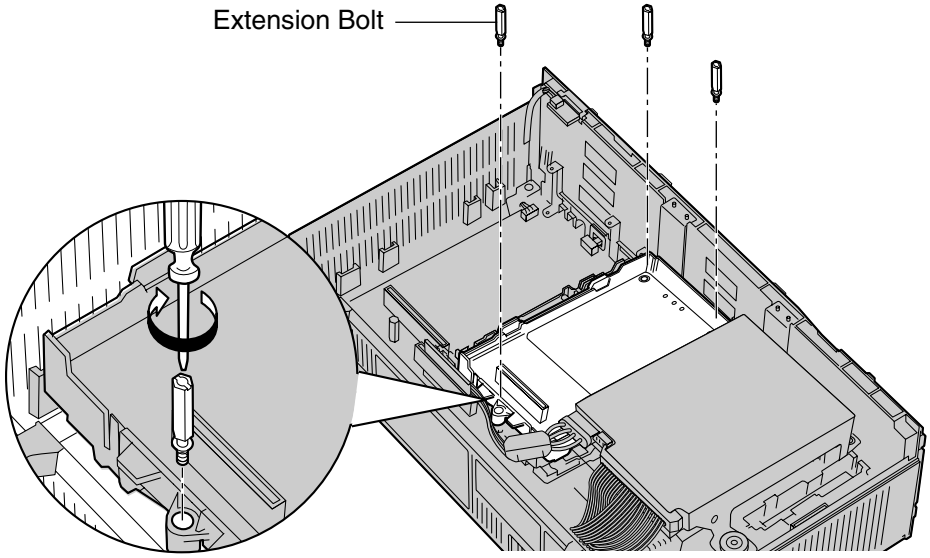
1. Position the front of the card so that the jacks fit in the open slot. Make sure that the tabs on both sides of the card fit into place. Holding the card firmly in place, lower the other end of the card so that the card's hole fits over the extension bolt.

CAUTION

When installing optional cards, do not put pressure on the main board. Doing so may result in damage to the VPS.

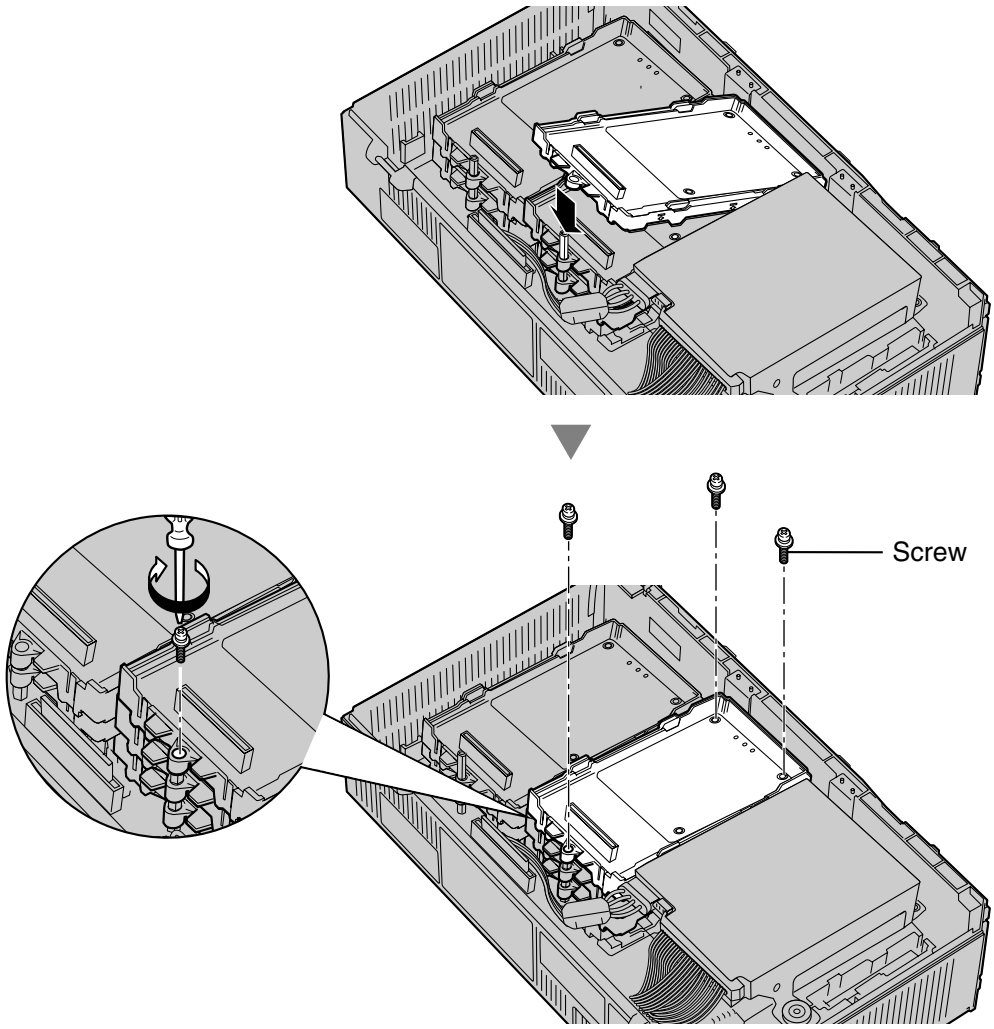


2. Insert the new extension bolts (included with the card) into the holes on the card, and tighten them to secure the card.



Installing Cards in Slot 5 or Slot 6

When installing a card in Slot 5 or 6, secure the card using the screws included with the card, instead of the extension bolts.



Note

- The KX-TVM204 operates at SELV.

2.8.2 Modem Card (KX-TVM296)

The KX-TVM296 allows the VPS to be accessed remotely for administration purposes.

Included Items

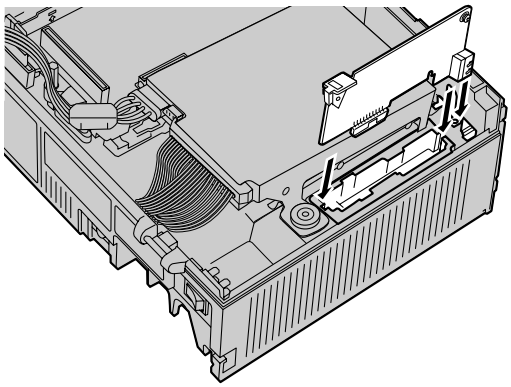
Screw × 1

Installation

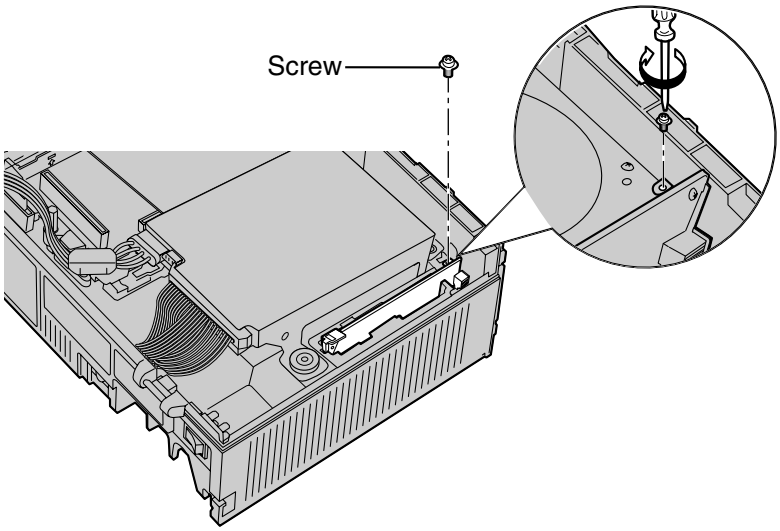
1. Insert the card between the guide rails and slide it down as shown.

CAUTION

When installing optional cards, do not put pressure on the main board. Doing so may result in damage to the VPS.



2. Insert and tighten the screw as shown.



Note

- The KX-TVM296 operates at TNV.

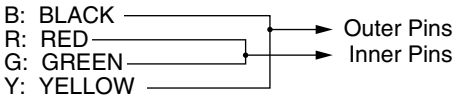
2.9 PBX Connections

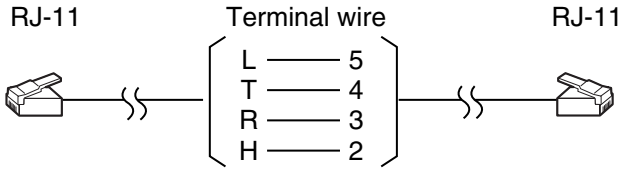
2.9.1 Connecting to the PBX

One jack of the VPS can be connected to 1 jack of the PBX. For APT/DPT Integration, use a 4-conductor cable to connect the VPS and PBX. For Inband or None Integration (KX-TVM50 only), use a 2-conductor (T and R) cable.

4-Conductor Cable

Modular Connection





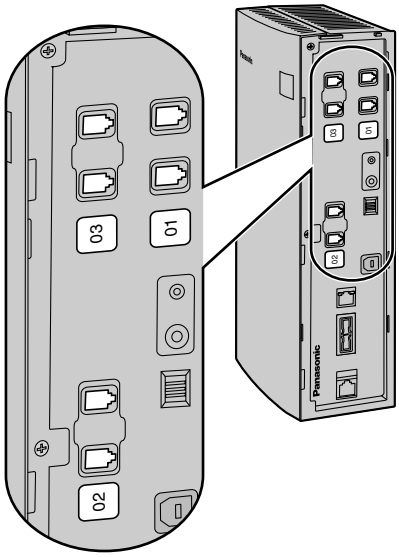
2.9.2 Modular Plug Connection

Insert the modular plug of each telephone cord into an available modular jack of the VPS.

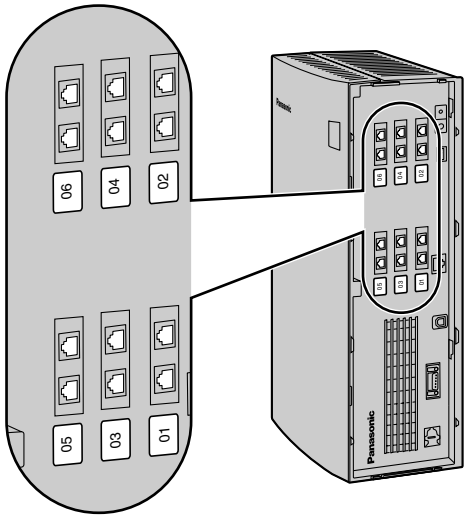
Note

- When the VPS and PBX use APT or DPT Integration, use 0.5 mm telephone cords. The maximum length of each telephone cord connecting the VPS and PBX should be under 100 m.

KX-TVM50



KX-TVM200

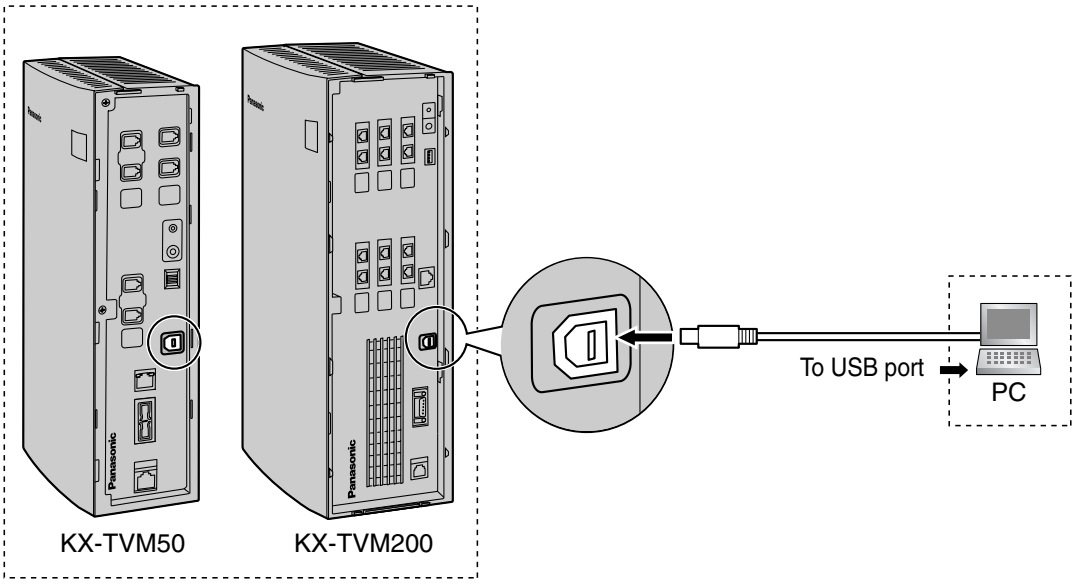


2.10 PC Connection

A PC connected to the VPS can be used to program various VPS settings.

2.10.1 USB Connection

An on-site PC can be connected to the VPS via USB.

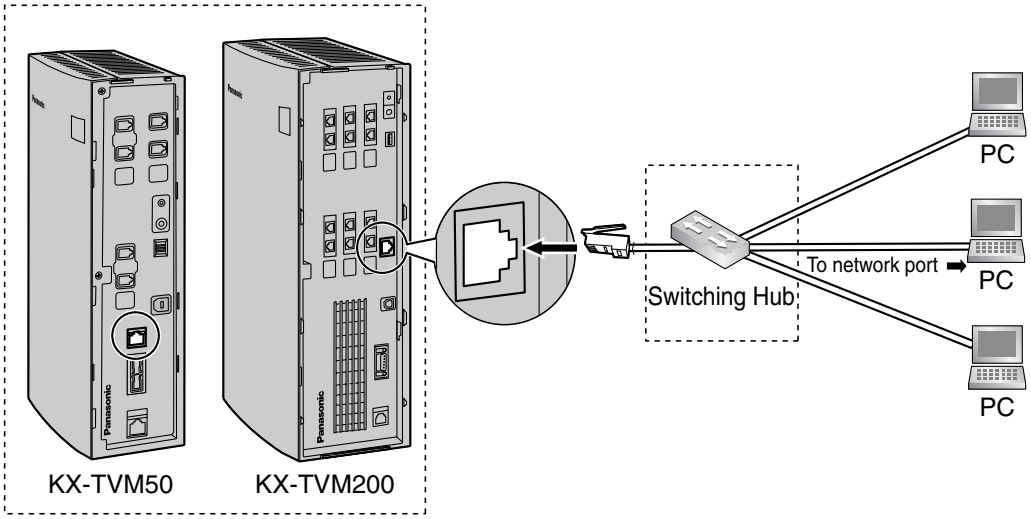


Note

- We recommend using a USB cable of no more than 5 m in length.

2.10.2 LAN Connection

An on-site PC can be connected to the VPS over a local area network (LAN). For the KX-TVM50, an optional LAN Interface Card must be installed in the VPS.

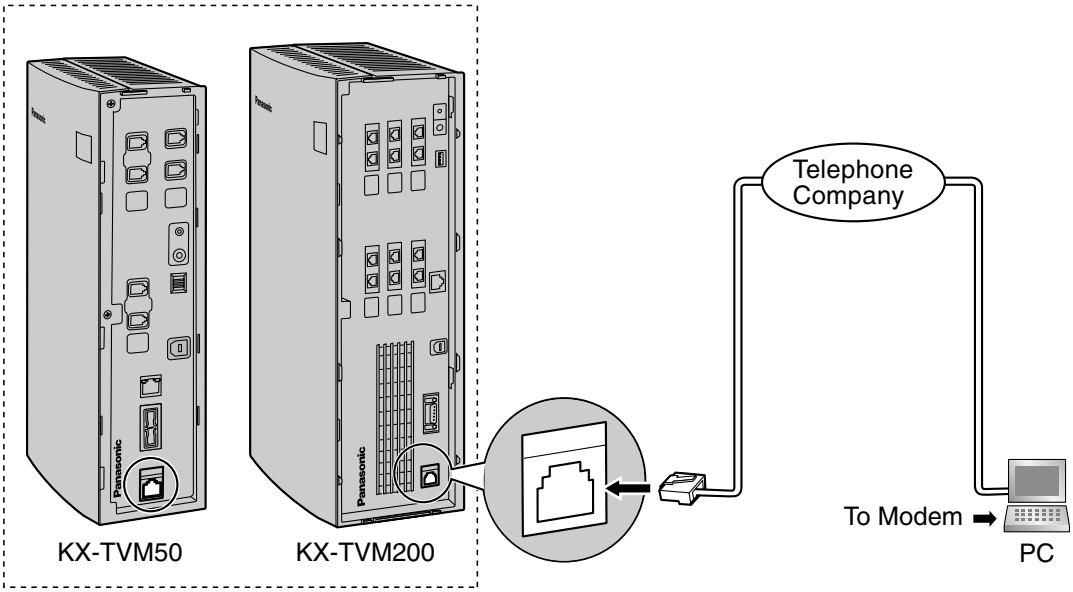


Note

- Use a category 5 cross cable (user-supplied) when connecting the VPS to a switching hub.

2.10.3 Modem Connection

To connect an off-site PC to the VPS remotely via modem, an optional Modem Card must be installed in the VPS and the off-site PC must also be equipped with a modem.



Note

- To avoid dedicating a trunk to the internal modem, you can connect the modem to the PBX as you would a standard single line telephone (SLT). Off-site programming is possible if trunk calls from the remote PC are routed to the extension port connected to the VPS modem. Note that the effective data transfer rate of the internal modem (maximum 33 600 bps) will be subject to the throughput limitations of the PBX.
- This modem is designed to interwork with the analogue Public Switched Telecommunication Network (PSTN) of a European country.

2.11 Frame Earth Connection

IMPORTANT

Connect the frame of the main unit to earth. The earthing plug of the AC cable provides some protection from external noise and lightning strikes, but it may not be enough to fully protect the unit. A permanent connection between earth and the earth terminal of the unit must be made.

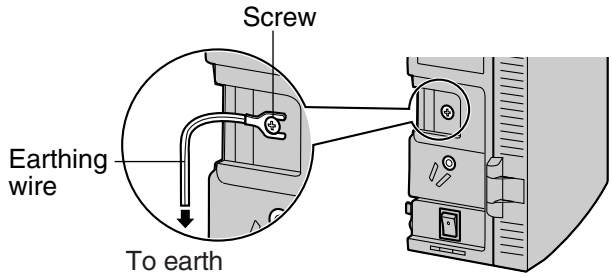
1. Loosen the screw.
2. Insert an earthing wire (user-supplied).

Note

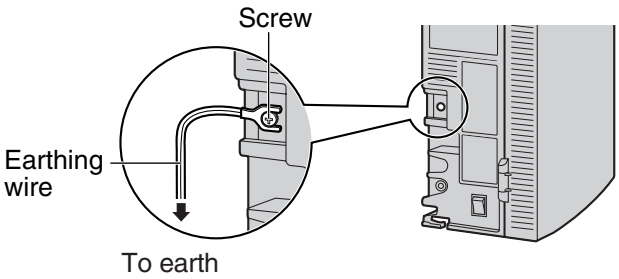
- Green-and-yellow insulation is required, and the cross-sectional area of the conductor must be more than 0.75 mm^2 or 18 AWG.

3. Tighten the screw.
4. Connect the earthing wire to earth.

KX-TVM50



KX-TVM200



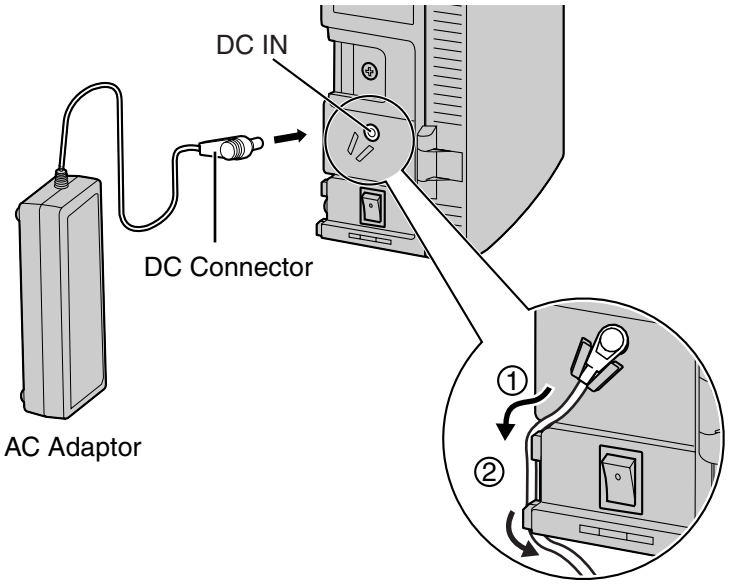
Note

- Be sure to comply with applicable local regulations (e.g., laws, guidelines).
- Proper connection to earth is very important to protect the unit from external noise, and can reduce the risk of electrocution in the event of a lightening strike.

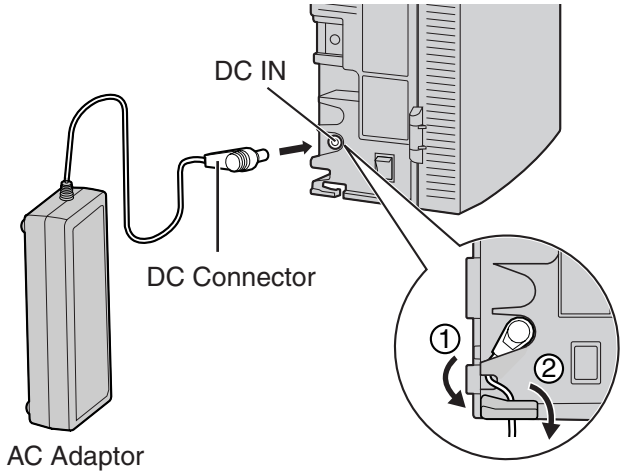
2.12 Connecting the AC Adaptor

1. Plug the DC connector of the AC adaptor into DC IN.

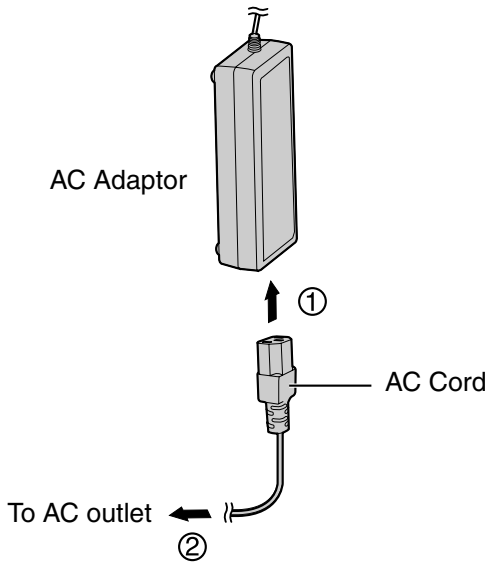
KX-TVM50



KX-TVM200



2. Confirm that the VPS power switch is in the "OFF" position, then plug the AC cord into the AC adaptor, then plug the other end into an AC outlet.



IMPORTANT

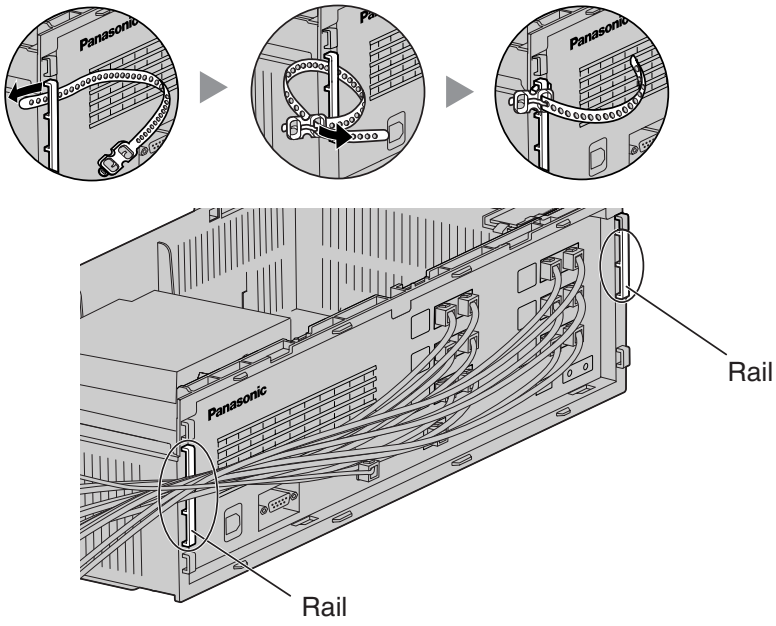
KX-TVM50: Use only the included Panasonic AC adaptor, part number PSLP1322.

KX-TVM200: Use only the included Panasonic AC adaptor, part number PSLP1244.

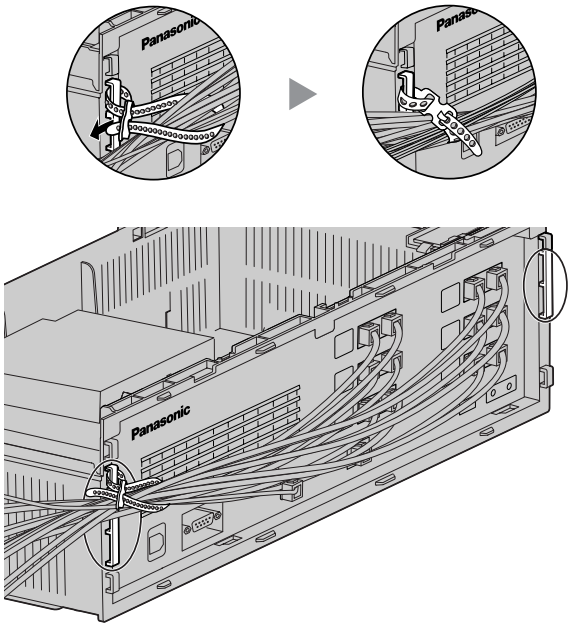
2.13 Securing the Cables

The model shown here is the KX-TVM200, however this procedure is the same for the KX-TVM50.

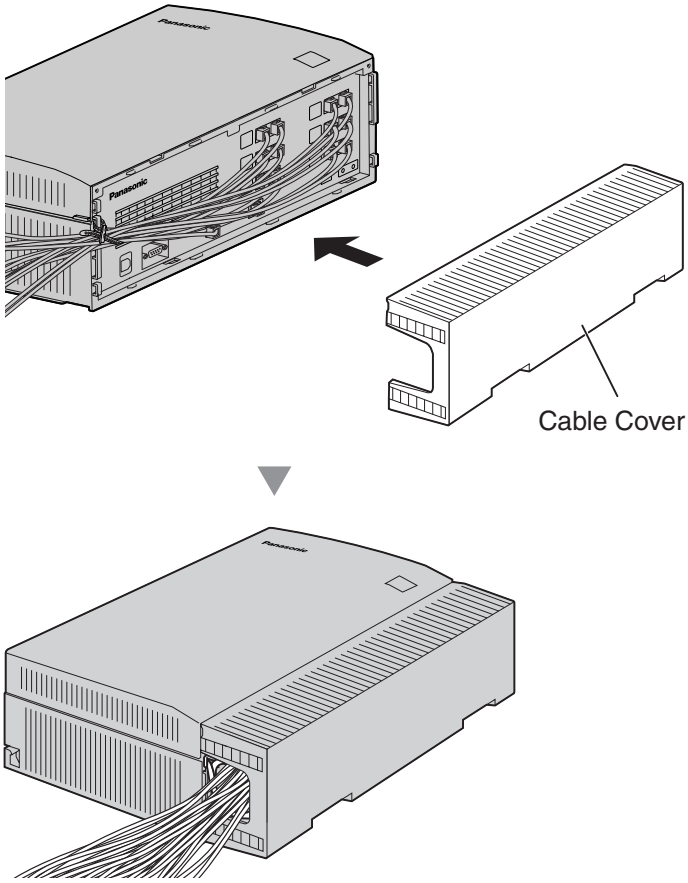
1. Attach the included strap to either of the 2 rails depending on your preference.



2. Bind the cables as shown.

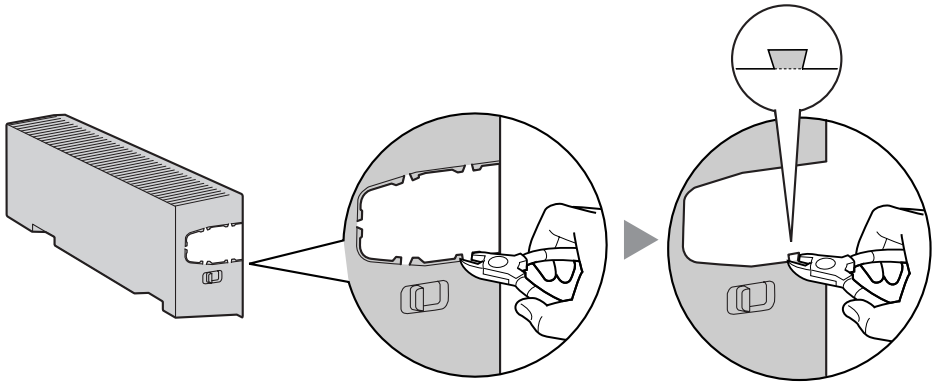


3. Attach the cable cover (2.5 Opening/Closing the Covers).



Note

- For safety reasons, do not stretch, bend, or pinch the cables.
- If you prefer, you can cut the other side of the cable cover and run the cables through that opening. For safety reasons, smooth the cut edges.

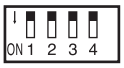


2.14 Initialising the VPS During Installation

Before programming the VPS for the first time, perform the initialisation procedure described below. All settings are reset to their default values. **Recorded messages are erased**. System Prompts (including customised prompts) are preserved.

1. Turn the power switch to the off position.
2. Set the Mode Switch to position 5 (see 2.3 Names and Locations).

3. Turn the power switch to the on position.
4. Confirm that the Run Indicator blinks 5 times.
   - This may take several minutes. The Alarm Indicator and Run Indicator will first blink intermittently before the Run Indicator blinks 5 times.
5. Turn the power switch off at the VPS.
6. Set the Mode Switch to position 0.



7. Turn the power switch back on at the VPS.

CAUTION

If the Mode Switch is not set to position 0, all programming will be lost when the power is switched off!

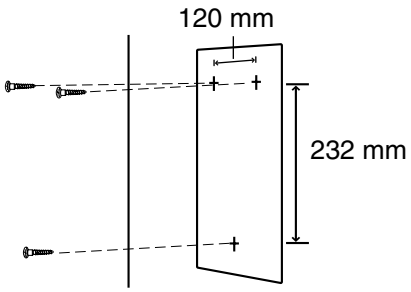
After initialising the VPS, continue with the installation procedure and/or begin programming the VPS.

2.15 Wall Mounting

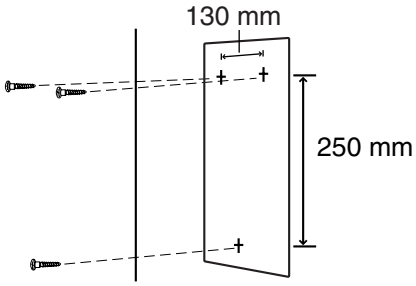
2.15.1 Wall Mounting the VPS

Mounting on a Wooden Wall

1. Place the appropriate wall mounting template (found on the last 2 pages of this manual) on the wall to mark the locations where the 3 screws need to be placed.

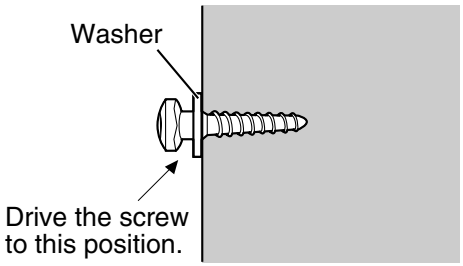


KX-TVM50



KX-TVM200

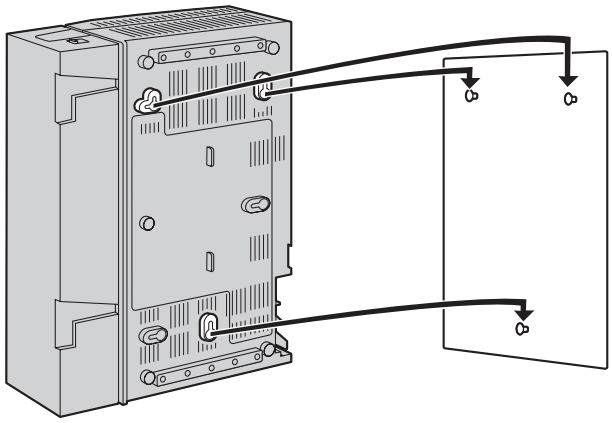
2. Install the screws and washers (included) in the wall.



Note

- Drive the screws into the wall until each screw head is the same distance from the wall.
- Install the screws perpendicular to the wall.

3. Mount the unit as shown.



Note

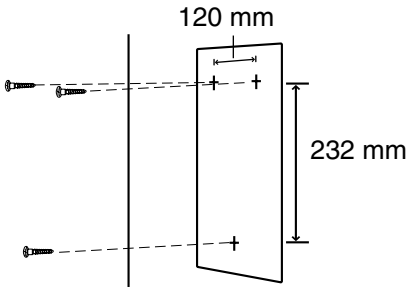
- Do not block the openings of the unit. Allow space of at least 20 cm above and 10 cm on the sides of the unit.
- Make sure that the wall behind the unit is flat and free of obstructions so that the openings on the back of the unit will not be blocked.
- Be careful not to drop the unit.

Mounting on a Concrete or Mortar Wall

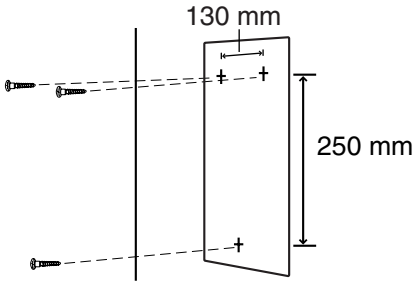
CAUTION

When driving the mounting screws into the wall, be careful to avoid touching any metalwork (metal/wire laths, etc.), conduits, or electrical cables buried in the wall.

1. Place the appropriate wall mounting template (found on the last 2 pages of this manual) on the wall to mark the locations where the 3 screws need to be placed.

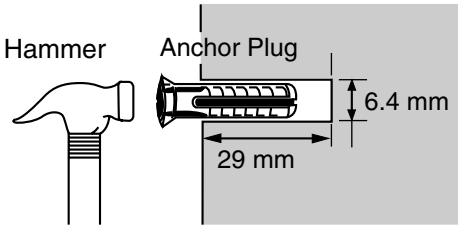


KX-TVM50

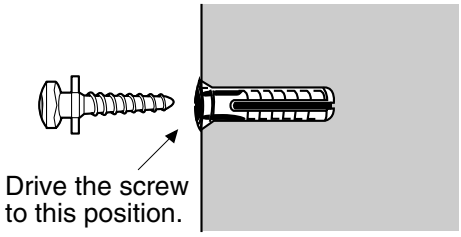


KX-TVM200

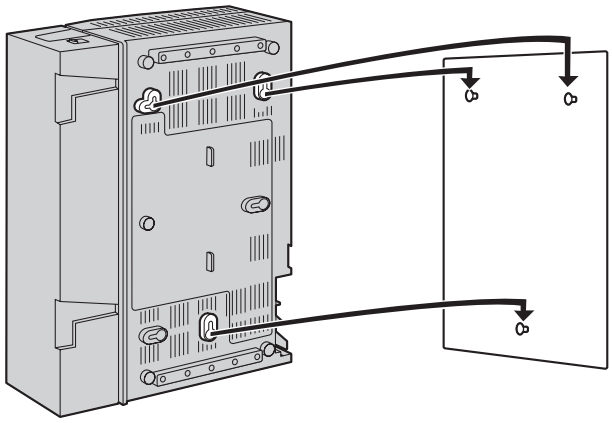
2. Install 3 anchor plugs (user-supplied) in the wall.



3. Install the screws (included) in the wall.



4. Mount the unit as shown.



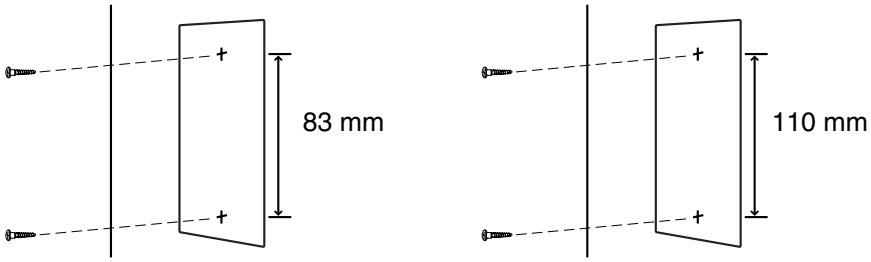
Note

- Do not block the openings of the unit. Allow space of at least 20 cm above and 10 cm on the sides of the unit.
- Make sure that the wall behind the unit is flat and free of obstructions so that the openings on the back of the unit will not be blocked.
- Be careful not to drop the unit.

2.15.2 Wall Mounting the AC Adaptor

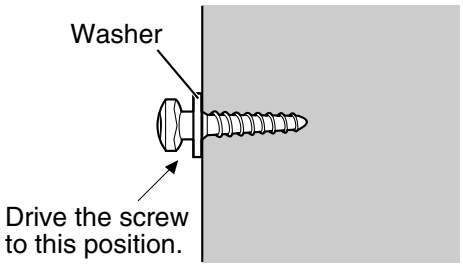
Mounting on Wooden Wall

1. Place the AC adaptor wall mounting template (found later in this section) on the wall to mark the locations where the 2 screws need to be placed.



KX-TVM50 **KX-TVM200**

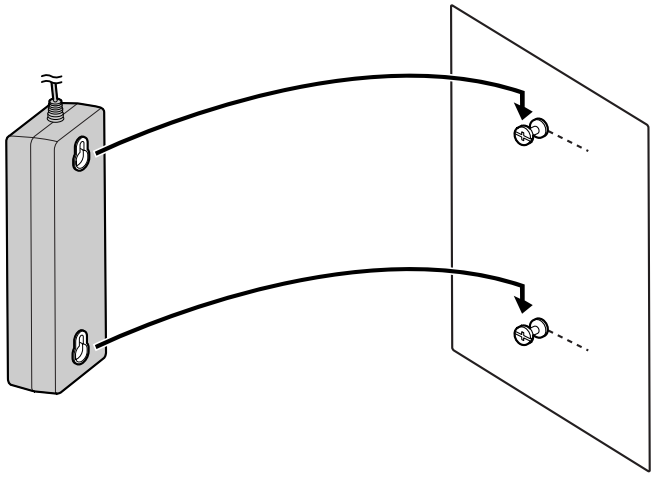
2. Install the screws and washers (included) in the wall.



Note

- Drive the screws into the wall until each screw head is the same distance from the wall.
- Install the screws perpendicular to the wall.

3. Mount the AC adaptor as shown.

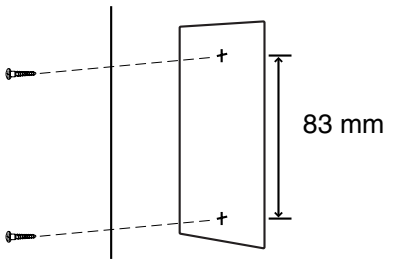


Mounting on Concrete or Mortar Wall

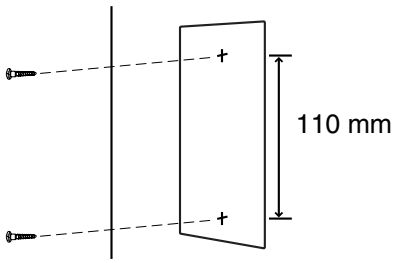
CAUTION

When driving the mounting screws into the wall, be careful to avoid touching any metalwork (metal/wire laths, etc.), conduits, or electrical cables buried in the wall.

1. Place the AC adaptor wall mounting template (found later in this section) on the wall to mark the locations where the 2 screws need to be placed.

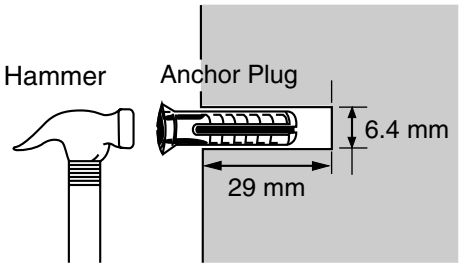


KX-TVM50

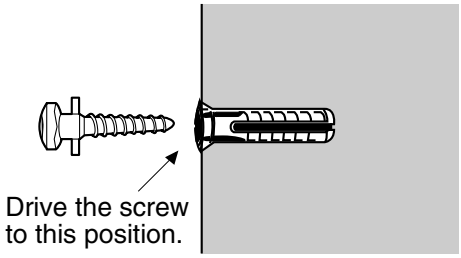


KX-TVM200

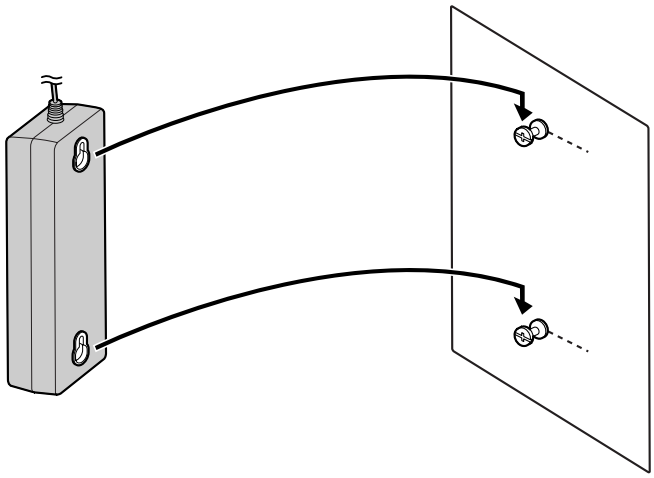
2. Install 2 anchor plugs (user-supplied) in the wall.



3. Install the screws (included) in the wall.

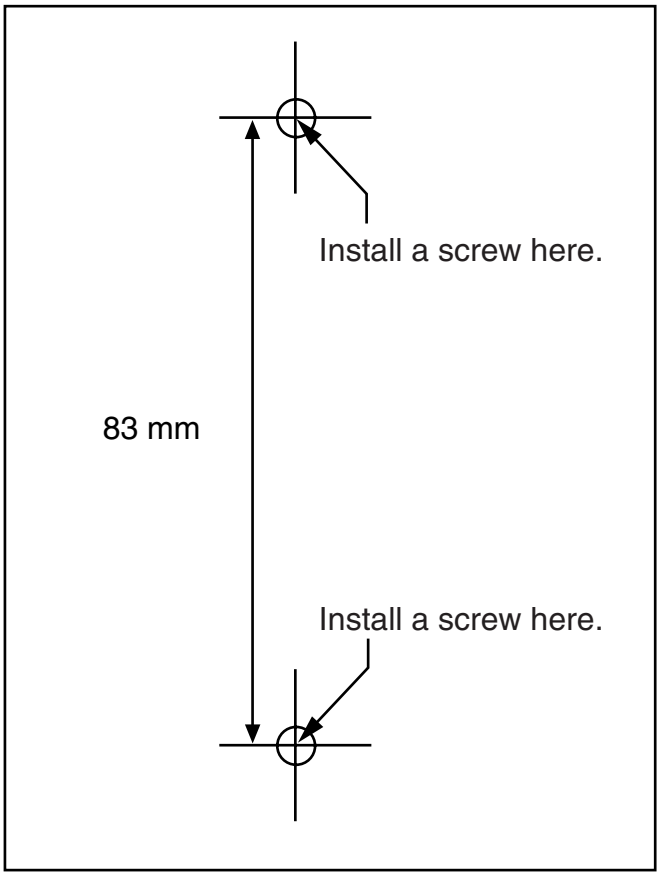


4. Mount the AC adaptor as shown.



Wall Mounting Template for AC Adaptor

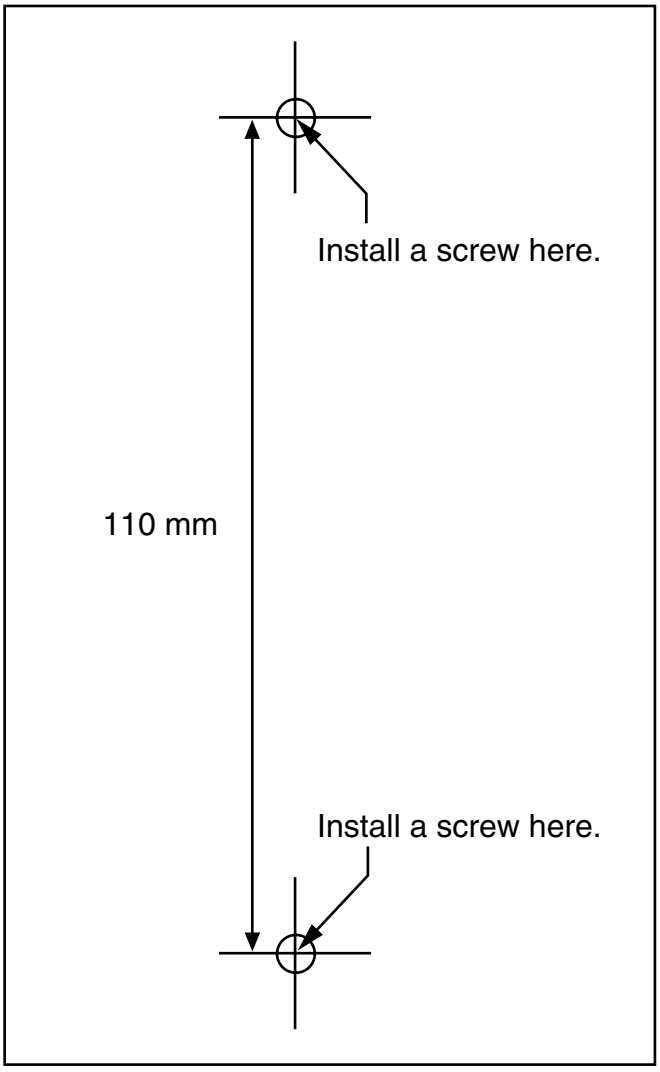
Please copy this page and use as a reference for wall mounting the KX-TVM50.



Note

- When you print out this page, the dimensions of the wall mounting template may deviate slightly from the measurements indicated in the template. Confirm that the markings on the printed page reflect the measurements indicated in the template.

Please copy this page and use as a reference for wall mounting the KX-TVM200.



Note

- When you print out this page, the dimensions of the wall mounting template may deviate slightly from the measurements indicated in the template. Confirm that the markings on the printed page reflect the measurements indicated in the template.

Section 3

Installing KX-TVM Maintenance Console

This section explains how to install KX-TVM Maintenance Console on a PC.

3.1 Overview

After wall mounting and connecting the VPS to the PBX, you can begin programming the VPS. This programming should be performed by the installer, using the KX-TVM Maintenance Console software. This software can be used to set system parameters, change system prompts, diagnose system functions, etc.
KX-TVM Maintenance Console supports connection to the VPS via USB, LAN, and modem. For details on how to connect the PC to the VPS, see 2.9 PBX Connections. For detailed information on all programming parameters available through KX-TVM Maintenance Console, refer to the Programming Manual or the software's on-line Help feature.
This section explains how to install the software on a PC. Normally you should install the software KX-TVM Maintenance Console on a PC that will be on-site with you during initial programming.

3.2 KX-TVM Maintenance Console Installation

System Requirements

Operating System

- Microsoft® Windows® 98 SE, Windows 2000, or Windows XP

Hardware

- CPU: Intel® Pentium® 133 MHz or better microprocessor
- RAM: at least 64 megabytes (MB) of free RAM (128 MB recommended)
- HDD: at least 300 MB of hard disk space

Password Security

To maintain system security, a password is required to perform system programming. We recommend changing the default password the first time you access the VPS via KX-TVM Maintenance Console. The default password can be changed by running the Quick Setup utility (see 6.1.2 Quick Setup) or by selecting System Security→Administrator→Password.

Warning to the Administrator regarding the system password

1. To avoid unauthorised access to VPS settings, which could result in fraudulent dialling, do not disclose the password.
2. Please inform the customer of the importance of the password and the possible dangers if it becomes known to others.
3. Please change the password periodically.
4. To prevent unauthorised access, we strongly recommend selecting a long and random password.
5. If the system password is forgotten, you have to reset the VPS to its factory defaults and reprogram it.

Note

- A Programmer Code, if set, is required to start KX-TVM Maintenance Console. You can set or delete the Programmer Code by selecting Utility→Programmer Code. If no code is set, the KX-TVM Maintenance Console can be started and used, but a password is required to connect to the VPS and change VPS settings.

Installing KX-TVM Maintenance Console

1. Copy the KX-TVM Maintenance Console setup file to a local drive on the PC. (Its icon is shown here, on the left.)
2. Double-click the setup file to run the installer.
3. Follow the on-screen instructions provided by the installation wizard.
4. Click **"Finish"**.
5. Click **"Yes"** when prompted to copy the USB drivers, specify a location, then click **"OK"**.
6. Click **"OK"** after the drivers have been copied to the local drive.

Note

- To install or uninstall the software on a PC running Windows 2000 Professional or Windows XP Professional, you must be logged in as a user that is in either the "Administrators" or "Power Users" group.
- When the VPS is first connected to the PC via USB, a wizard should appear and ask you to select the appropriate USB driver. Browse for and select the KX-TVM USB driver, which is copied to the local drive during installation.

Updating other Panasonic Drivers

CAUTION

Installing the USB driver may prevent the USB driver for KX-TDA series or PC Console/Phone Software from functioning correctly. In this case, update the USB drivers as necessary from the following folders on the included CD-ROM:
KX-TDA Series: CD-ROM Drive:\TDA_USB Driver\TDA_USB Driver
PC Console/Phone Software: CD-ROM Drive:\TDA_USB Driver\T7601_USB Driver

Note

- Before installing or uninstalling the driver, be sure to close any open applications.

Windows 98SE

1. Connect the PC to the PBX with a USB cable.
   The **Add New Hardware Wizard** will appear.
2. Click **Next**.
3. Select **Search for the best driver for your device. [Recommended]**, then click **Next**.
4. Select **Specify a location**, then click **Browse**.
5. Specify the folder containing the USB driver, **CD-ROM Drive:\USB driver\Win98**, then click **OK**.
6. Click **Next**.
7. Click **Next**.
8. Click **Finish**.

Note

- If a dialog box appears asking you to restart your PC, restart the PC.

Windows 2000

1. Connect the PC to the PBX with a USB cable.
   The **Found New Hardware Wizard** will appear.
2. Click **Next**.
3. Select **Search for a suitable driver for my device. [Recommended]**, then click **Next**.
4. Select **Specify a location**, then click **Next**.
5. Click **Browse**, and specify the folder containing the USB driver, **CD-ROM Drive:\USB driver\Win2000**, then click **Open**.
6. Click **OK**.
7. Click **Next**.
8. Click **Finish**.

Windows XP

1. Connect the PC to the PBX with a USB cable.
   The **Found New Hardware Wizard** will appear.
2. Select **Install from a list or specific location [Advanced]**, then click **Next**.
3. Select **Search for the best driver in these locations**.
4. Select **Include this location in the search:**, then click **Browse**.
5. Specify the folder containing the USB driver, **CD-ROM Drive:\USB driver\WinXP**, then click **OK**.
6. Click **Next**.
7. Click **Continue Anyway**.
8. Click **Finish**.

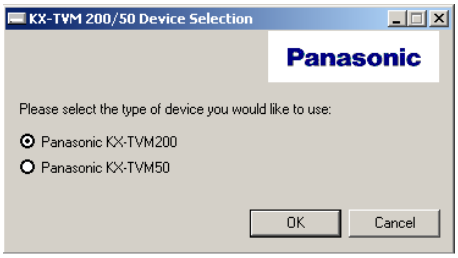
3.3 Starting KX-TVM Maintenance Console

The instructions listed below explain how to start KX-TVM Maintenance Console. These instructions are for when connecting to the VPS via USB.

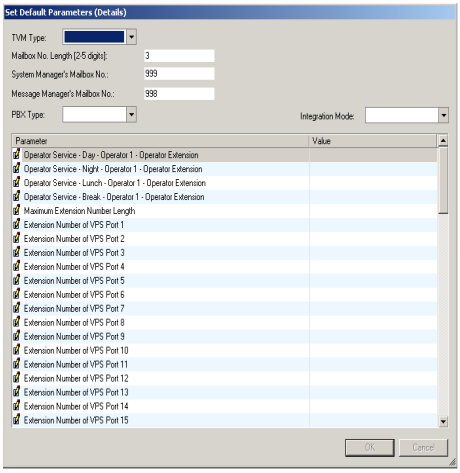
Note

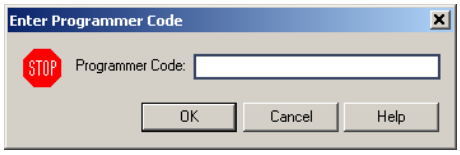
- The screenshots shown here are for reference only, and may differ from the screens displayed on your PC.

1. Click the **KX-TVM Maintenance Console** shortcut icon. Its icon is shown here, on the left.



2. Select the appropriate VPS model.

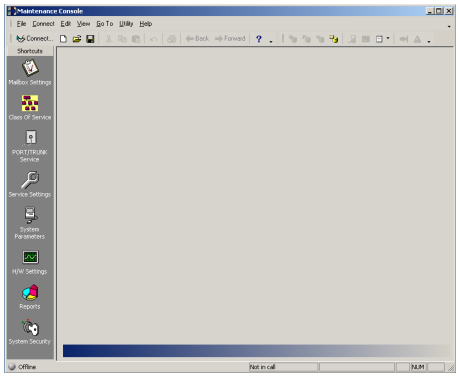




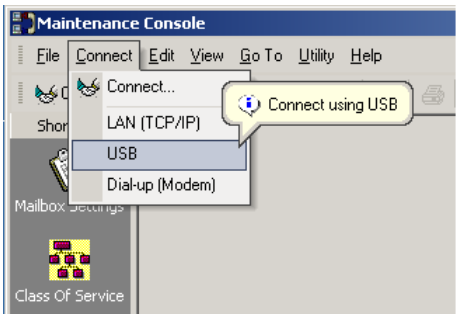
3. The Set Default Parameters window is displayed the first you start KX-TVM Maintenance Console. Select the TVM Type, PBX Type, and Integration Mode. Change the default parameters listed in the window if necessary, then click **"OK"**.

   Note

   - If you have already used KX-TVM Maintenance Console to change the administrator password, the Enter Programmer Code dialog box is displayed. Enter the previously set Programmer Code and click **"OK"**.



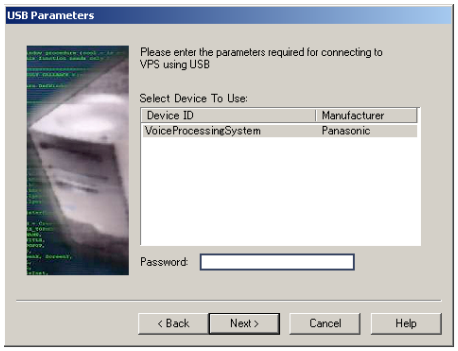
4. The main window is displayed.



5. Click **"Connect"** → **"USB"** from the menu bar, or click **"Connect"** on the shortcut bar, select **"USB"** in the Connection Mode dialogue box and click **"Next"**.

Note

- To connect to the VPS via USB, the KX-TVM USB driver must be installed on the PC, as explained above in "Installing KX-TVM Maintenance Console".



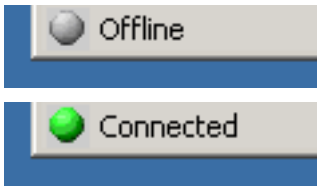
6. Select the VPS as the desired USB device, enter the password (default: 1234), then click **"Next"**.

7. Click **"Finish"** when the message **"Connected!"** is displayed.

8. You may now begin programming the VPS. To choose the area you would like to begin programming, click the desired icon in the Shortcuts menu.

Note

- To connect to the VPS via LAN, first connect to the VPS via USB and set the appropriate LAN settings. Refer to 1.8.12 Utility—LAN Settings in the Programming Manual.
- To connect to the VPS via modem, refer to 1.4.3 Connect—Modem (optional) in the Programming Manual.
- If programming the VPS for the first time, the Quick Setup utility can help you program essential settings quickly and easily. See 6.1.2 Quick Setup for more information.
- KX-TVM Maintenance Console can be used when offline (not connected to the VPS) or when connected. When offline, you can set and save the settings you have made and upload them to the VPS later when connected.



- Software features, design, and system requirements are subject to change.

Section 4

APT/DPT Integration with a Panasonic KX-T Series PBX

This section explains how to configure Panasonic KX-T series PBXs to use APT/DPT Integration with the VPS.

4.1 Guidelines for APT/DPT Integration

4.1.1 What is APT/DPT Integration?

In order for the VPS to function, it must be integrated with the PBX it serves. The type of integration that is used determines how voice (caller messages, VPS prompts, etc.) and data (extension status, button presses, etc.) are sent between the VPS and the PBX.

Unlike Inband Integration, when the VPS and PBX use APT or DPT Integration, information is sent between the PBX and VPS digitally. This allows the VPS to respond quickly and efficiently. Additionally, configuring a Panasonic PBX for APT or DPT Integration is generally much easier than configuring a PBX for Inband Integration.

4.1.2 When to Use APT/DPT Integration

The type of PBX and/or the type of extension cards installed in the PBX will determine whether APT or DPT Integration can be used. See 1.1.7 Compatible PBXs for more information.

4.1.3 APT/DPT Integration Features

During APT/DPT Integration, the PBX sends information to the VPS which lets the VPS know from where and why a call is sent to the VPS, and identifies the extension or outside caller that is calling. This communication allows features that are only available with APT/DPT Integration, described below:

Feature	Description	Compatible Integration Type	
		APT	DPT
Auto Configuration	The VPS knows what extension names/ numbers exist on the PBX and creates mailboxes for each extension automatically. Also sets the VPS clock with data from the PBX clock.	✔	✔
Automatic Login*1	Subscribers can access their mailboxes without dialling their mailbox numbers.	✔	✔
Caller ID Call Routing*2	The VPS automatically sends calls from preprogrammed Caller ID numbers to the specified extension, mailbox, or Custom Service.	✔	✔
Caller ID Screening	When the VPS transfers a call to an extension, the VPS announces the prerecorded name of the caller, allowing the extension user to know who is calling.	✔	✔

Feature	Description	Compatible Integration Type	
		APT	DPT
Caller Name Announcement (System/ Personal)*2	The VPS announces the prerecorded caller name when: (1) extension users listen to messages from assigned numbers left in their mailboxes, (2) the VPS transfers calls from assigned numbers to the users, and (3) the VPS pages the users by intercom. If the same Caller ID number is programmed for both System and Personal Caller Name Announcements, the VPS will use the personal caller name.	✔	✔
Caller Name Announcement Over Paging	After receiving Caller ID information from the telephone company, the VPS announces the caller's name and the trunk number.	✔	✔
Intercom Paging*2	Callers can page subscribers through built-in speakers and external paging equipment. If a Caller ID caller's name has been previously recorded for the Caller Name Announcement Feature, the caller's name will be announced at the end of the page.	✔	✔
Live Call Screening	Allows the subscriber to monitor incoming calls as messages are being recorded. The subscriber has the option of answering calls while monitoring or allowing the message to be recorded without interruption.	✔	✔
One-touch Two-way Transfer	An extension user can record his conversation in another person's mailbox by pressing a preprogrammed flexible button. Available only with KX-TDA series PBXs.	—	✔
Personal Greeting for Caller ID*2	Each subscriber can record up to 4 personal greeting messages for special callers.	✔	✔
Service Mode (PBX Control Mode)	Allows the System Administrator or the System Manager to change the call handling method that is programmed for each Time Group.	✔	✔
Toll Saver*1	Subscribers can call the VPS from preprogrammed outside telephone numbers or by using preprogrammed DID numbers and be connected to their mailboxes directly. The number of rings they hear will let them know if they have new messages or not.	✔	✔
Trunk Service (Universal Port)	Each PBX trunk group can be assigned one of 4 incoming call services: Voice Mail Service, Automated Attendant Service, Interview Service, and Custom Service.	✔	✔

Feature	Description	Compatible Integration Type	
		APT	DPT
Two-way Recording	Subscribers can record conversations into their own mailboxes by pressing a preprogrammed flexible button.	✔	✔
Two-way Transfer	Subscribers can record conversations into another person's mailbox by pressing a preprogrammed flexible button. and dialling an extension number.	✔	✔
Caller ID Callback	If Caller ID information was received for a call, the subscriber can easily call back the caller while listening to the message the caller recorded.	✔	✔
DID Call Routing*1	The VPS automatically sends calls from preprogrammed DID numbers to the specified extension, mailbox, or Custom Service.	—	✔
Remote Call Forwarding Set	The subscribers and the Message Manager can program their extensions from a remote location to forward various types of calls to a desired extension or an outside telephone.	—	✔
Time Synchronisation	Whenever the PBX sets a new date and time or when DPT Integration is established, the data is automatically registered in the VPS.	—	✔
Timed Reminder Setting*3	Allows subscribers to set the Timed Reminder feature of the PBX using voice prompts.	—	✔
VM Menu*3	Allows subscribers to access subscriber services by navigating through menus shown on their Digital Proprietary Telephones (DPTs).	—	✔

*1 DID Call Routing and Toll Saver using DID numbers are only available when the VPS is connected to the following PBXs with DPT Integration.

- KX-TD500: Software production date code 040901 or later. (KX-TD500C: Q951AB or higher, KX-TD500RU: Q971AB or higher, all other: Q271AD or higher)
- KX-TDA series (Version 1.1 or higher)

*2 When an incoming trunk call reaches the VPS via the PBX, the VPS will wait about 5 s before answering the call in order to properly receive the Caller ID information from the PBX. This waiting time is determined by the "Waiting Time for Receiving Caller ID" setting (see 2.5.4 Parameters in the Programming Manual).

*3 Timed Reminder Setting and VM Menu are only available when the VPS is connected to a KX-TDA series PBX (Version 2.21 or higher).

4.2 KX-TDA Series PBX Programming for DPT Integration

The screen shots shown in this section are for the KX-TDA200. Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

A group of DPT ports of a KX-TDA series PBX connected to a VPS with DPT Integration is called a "VM (DPT) Group". Each VM (DPT) Group consists of a maximum of 12 ports (24 channels) of the VPS.
Up to 2 VM (DPT) Groups can be assigned for the KX-TDA100/TDA200; 2 VPSs can be connected to a KX-TDA100/200.
Only one VM (DPT) Group can be assigned for the KX-TDA30; in other words, only one VPS can be connected to a KX-TDA30.
Through PBX system programming, you must assign the VM (DPT) Group and the VM (DPT) extension ports that will use DPT Integration.

1. Assignment of VM (DPT) Group

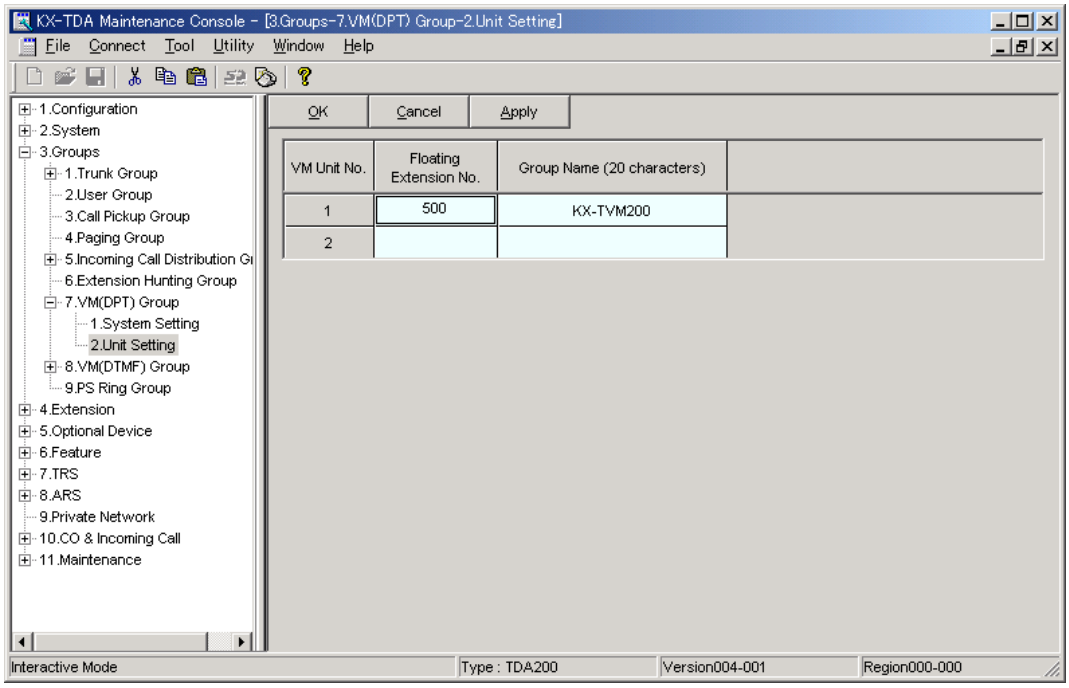
a) **Go** to the "**Groups-VM (DPT) Group-Unit Setting**" screen.

b) **Assign** a floating extension number to the VPS (VM Unit number).

c) **Click "Apply"** to save the changed data.

Note

- For the KX-TDA100/KX-TDA200, you can use a maximum of 2 VM (DPT) groups (Unit No.1 and Unit No.2).
  All of the extension ports in a VM (DPT) group should be connected to the same DHLC card or DLC card.



Note

- The screen shot above is an example of the KX-TDA200.

2. Assignment of VM (DPT) extension ports

a) **Go** to the **"Configuration-Extension Port"** screen. Follow the procedure below for the extension port which you want to assign as a VM port.

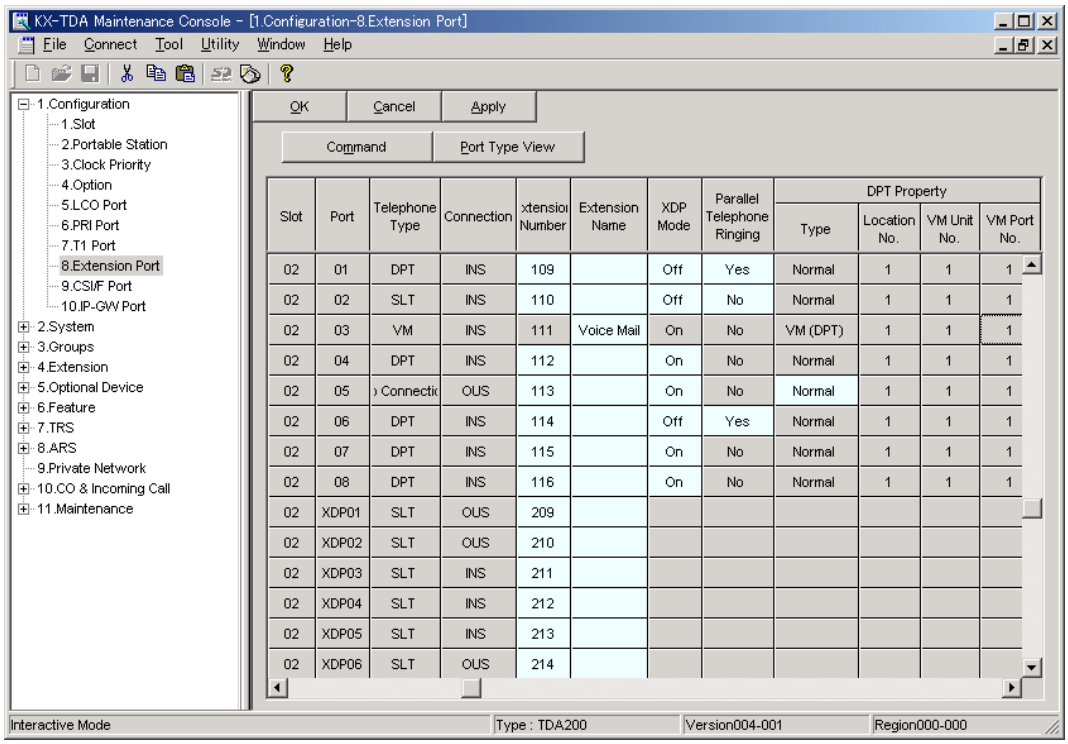
b) **Set** the port's **"Connection"** to **"OUS"**.

c) **Select** the attribute of **"DPT Property-Type"** to **"VM (DPT)"**.

d) **Assign "DPT Property-VM Unit No."** and **"DPT Property-VM Port No."**. Incoming calls will hunt starting at the lowest VM Port number.

e) **Click "Apply"** to save the changed data.

f) **Set** the port's **"Connection"** to **"INS"**.


KX-TDA Maintenance Console - [1.Configuration-8.Extension Port]
File Connect Tool Utility Window Help
1.Configuration
1.Slot
2.Portable Station
3.Clock Priority
4.Option
5.LCO Port
6.PRI Port
7.T1 Port
8.Extension Port
9.CSI/F Port
10.IP-GW Port
2.System
3.Groups
4.Extension
5.Optional Device
6.Feature
7.TRS
8.ARS
9.Private Network
10.CO & Incoming Call
11.Maintenance
OK
Cancel
Apply
Command
Port Type View
Slot Port Telephone Type Connection xtensio Number Extension Name XDP Mode Parallel Telephone Ringing DPT Property Type Location No. VM Unit No. VM Port No.
02 01 DPT INS 109 Off Yes Normal 1 1 1
02 02 SLT INS 110 Off No Normal 1 1 1
02 03 VM INS 111 Voice Mail On No VM (DPT) 1 1 1
02 04 DPT INS 112 On No Normal 1 1 1
02 05 Connecti OUS 113 On No Normal 1 1 1
02 06 DPT INS 114 Off Yes Normal 1 1 1
02 07 DPT INS 115 On No Normal 1 1 1
02 08 DPT INS 116 On No Normal 1 1 1
02 XDP01 SLT OUS 209
02 XDP02 SLT OUS 210
02 XDP03 SLT INS 211
02 XDP04 SLT INS 212
02 XDP05 SLT INS 213
02 XDP06 SLT OUS 214
Interactive Mode
Type : TDA200
Version004-001
Region000-000

Note

- The screen shot above is an example of the KX-TDA200.

3. Settings for the trunk features

Select the appropriate trunk feature settings depending on how your customer plans to use the VPS.

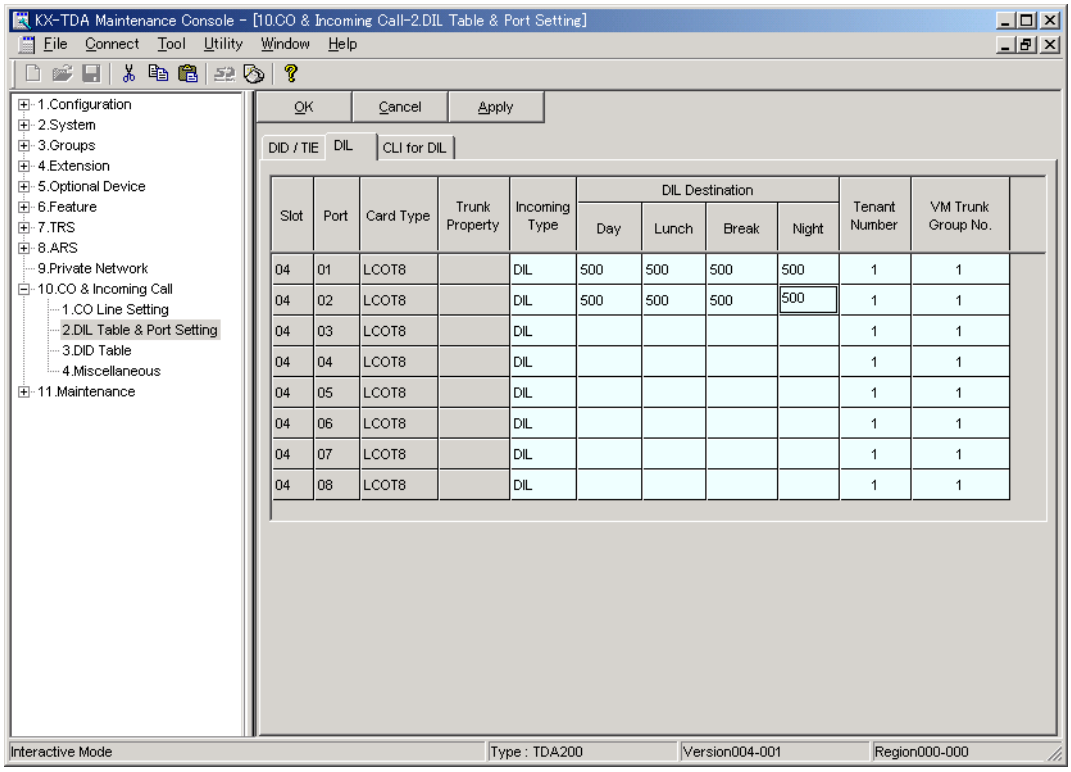
- The VPS answers all incoming trunk calls promptly.
  Go to [Example Settings (1)].
- The VPS answers when the operator does not take the call after a specified time.
  Go to [Example Settings (2)].
- The VPS answers when an Incoming Call Distribution (ICD) group does not take the call after a specified time.
  Go to [Example Settings (3)].

[Example Settings (1)]

Program the PBX so that all trunk calls are directed to the VPS (DIL feature).

1) **Go** to the "**CO & Incoming Call-DIL Table & Port Setting**" screen.
2) **Assign "DIL Destination Day/Night/Lunch/Break"** for each trunk to a floating extension number (VPS Port).
3) **Click "Apply"** to save the changed data.

Calls received on the assigned trunks will be directed to the VPS. The VPS will answer those calls using the service (AA, VM, Custom Service, etc.) assigned to each VPS port through VPS programming.



Note

- The above screen output appears only when all the trunk cards mounted on your PBX are LCOT8 cards.

[Example Settings (2)]

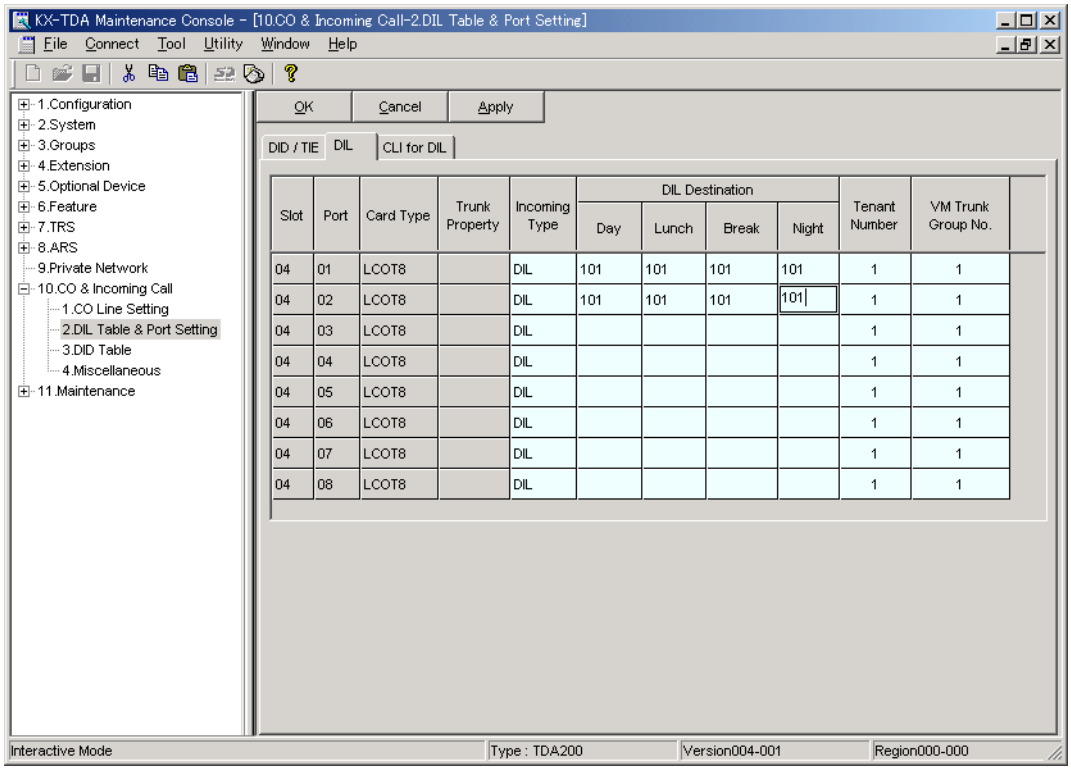
Program the PBX to direct incoming trunk calls to an operator, and to then direct those calls to the VPS when the operator does not answer.

a) Program the PBX so that incoming trunk calls are directed to an operator (DIL feature).

1) **Go** to the **"CO & Incoming Call-DIL Table & Port Setting"** screen.

2) **Assign "DIL Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number (operator extension).

3) **Click "Apply"** to save the changed data.

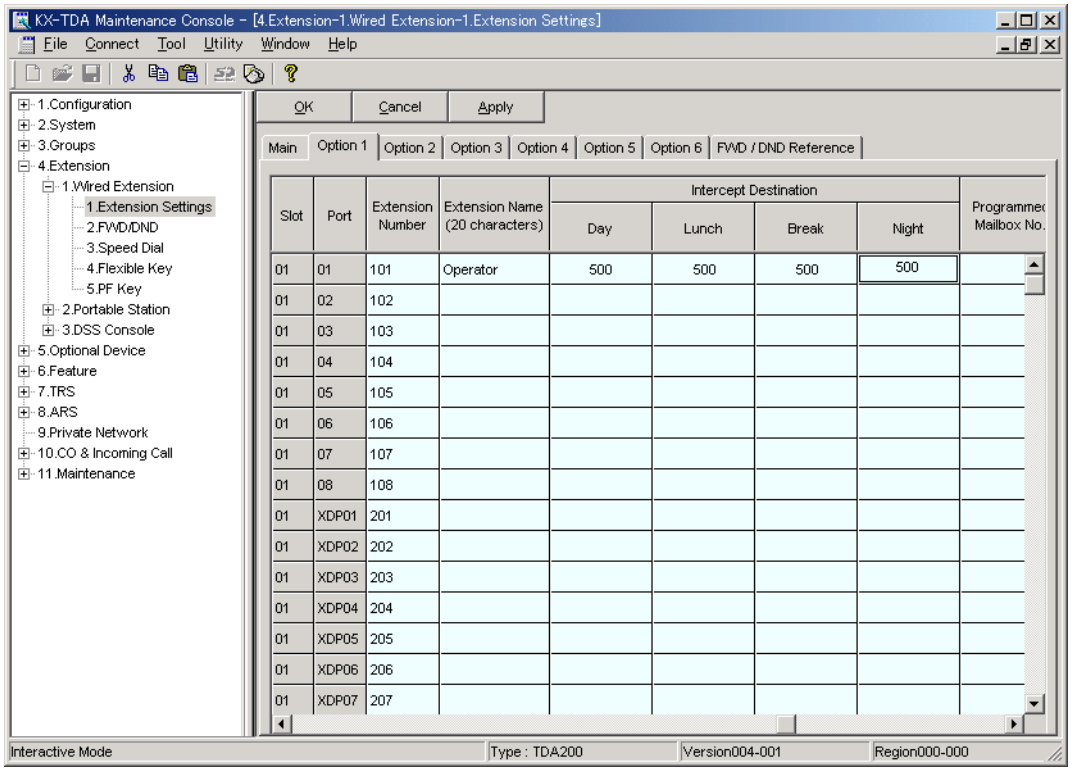


b) Program the PBX so that unanswered calls to the operator are redirected to the VPS (Intercept Routing No Answer feature).

1) **Go** to the **"Extension-Wired Extension-Extension Settings"** screen.

2) **Assign "Intercept Destination Day/Night/Lunch/Break"** for the operator's extension to a floating extension number (VPS Port).

3) **Click "Apply"** to save the changed data.

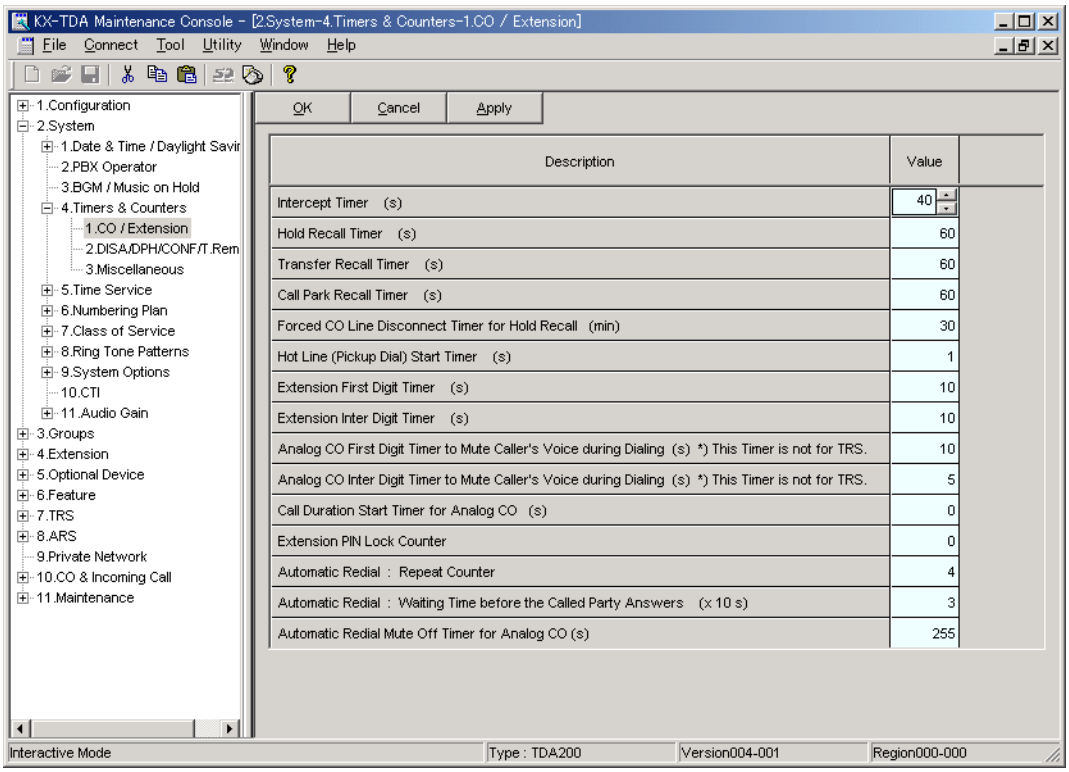


c) Set the amount of time before a call is considered "unanswered" and therefore forwarded to the VPS (Intercept Routing No Answer timer).

1) **Go** to the **"System-Timers & Counters-CO / Extension"** screen.

2) **Assign "Intercept Timer"** parameter.

3) **Click "Apply"** to save the changed data.

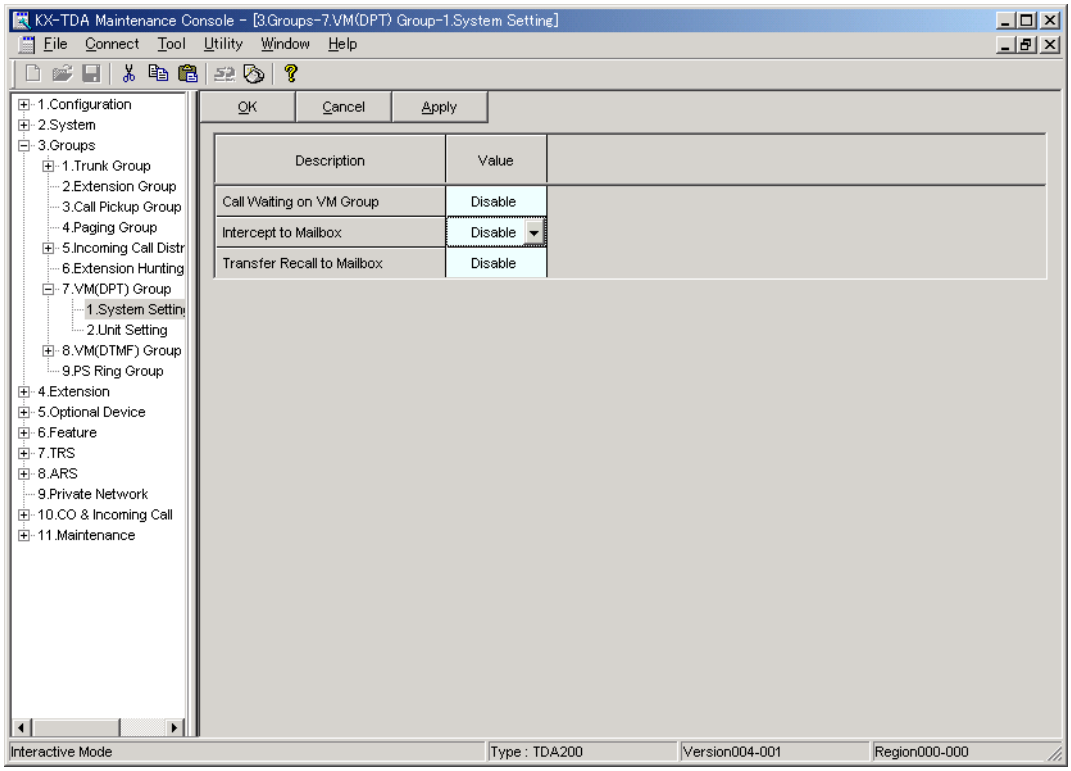

KX-TDA Maintenance Console - [2.System-4.Timers & Counters-1.CO / Extension]
File Connect Tool Utility Window Help
1.Configuration
2.System
1.Date & Time / Daylight Savir
2.PBX Operator
3.BGM / Music on Hold
4.Timers & Counters
1.CO / Extension
2.DISA/DPH/CONF/T.Rem
3.Miscellaneous
5.Time Service
6.Numbering Plan
7.Class of Service
8.Ring Tone Patterns
9.System Options
10.CTI
11.Audio Gain
3.Groups
4.Extension
5.Optional Device
6.Feature
7.TRS
8.ARS
9.Private Network
10.CO & Incoming Call
11.Maintenance
OK
Cancel
Apply
Description
Value
Intercept Timer (s) 40
Hold Recall Timer (s) 60
Transfer Recall Timer (s) 60
Call Park Recall Timer (s) 60
Forced CO Line Disconnect Timer for Hold Recall (min) 30
Hot Line (Pickup Dial) Start Timer (s) 1
Extension First Digit Timer (s) 10
Extension Inter Digit Timer (s) 10
Analog CO First Digit Timer to Mute Caller's Voice during Dialing (s) *) This Timer is not for TRS. 10
Analog CO Inter Digit Timer to Mute Caller's Voice during Dialing (s) *) This Timer is not for TRS. 5
Call Duration Start Timer for Analog CO (s) 0
Extension PIN Lock Counter 0
Automatic Redial : Repeat Counter 4
Automatic Redial : Waiting Time before the Called Party Answers (x 10 s) 3
Automatic Redial Mute Off Timer for Analog CO (s) 255
Interactive Mode
Type : TDA200
Version004-001
Region000-000

d) Program the PBX so that it will direct intercepted calls to the VPS.

1) **Go** to the **"Groups-VM(DPT) Group-System Setting"** screen.

2) **Select** "**Disable**" as the parameter for "**Intercept to Mailbox**".

3) **Click "Apply"** to save the changed data.



[Example Settings (3)]

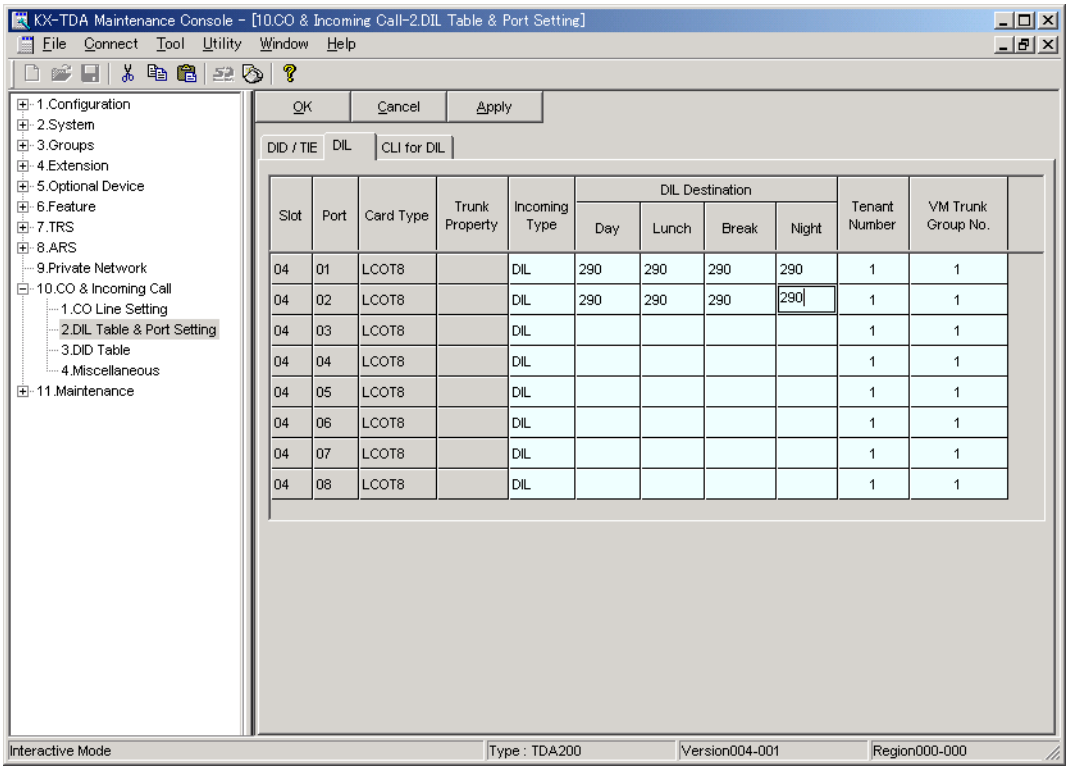
Program the PBX to direct incoming trunk calls to an Incoming Call Distribution (ICD) group, and to then direct those calls to the VPS when they are not answered.

a) Program the PBX so that incoming trunk calls are directed to an ICD group (DIL feature).

1) **Go** to the **"CO & Incoming Call-DIL Table & Port Setting"** screen.

2) **Assign "DIL Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number (floating extension number of the ICD group).

3) **Click "Apply"** to save the changed data.



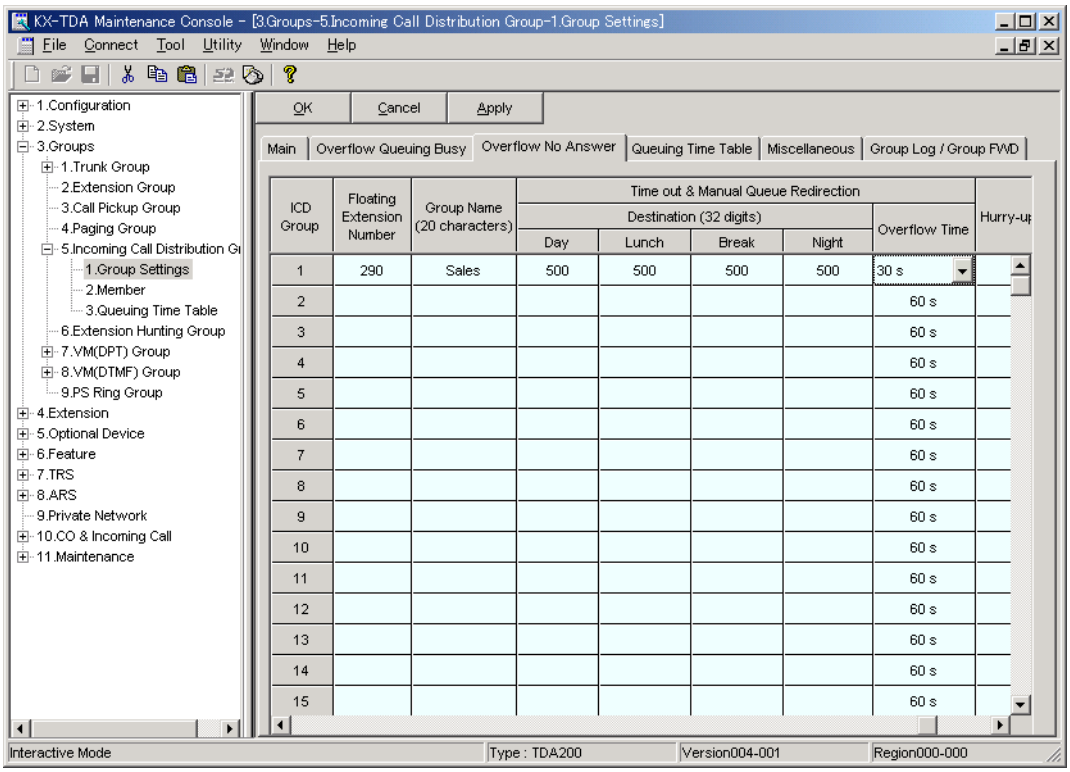
b) Program the PBX so that unanswered calls to the ICD group are redirected to the VPS (ICD Group Overflow feature).

1) **Go** to the **"Groups-Incoming Call Distribution Group-Group Settings"** screen.

2) **Assign "Time out & Manual Queue Redirection-Destination"** for the ICD group to a floating extension number (VPS Port).

3) **Assign "Overflow Time"** parameter.

4) **Click "Apply"** to save the changed data.

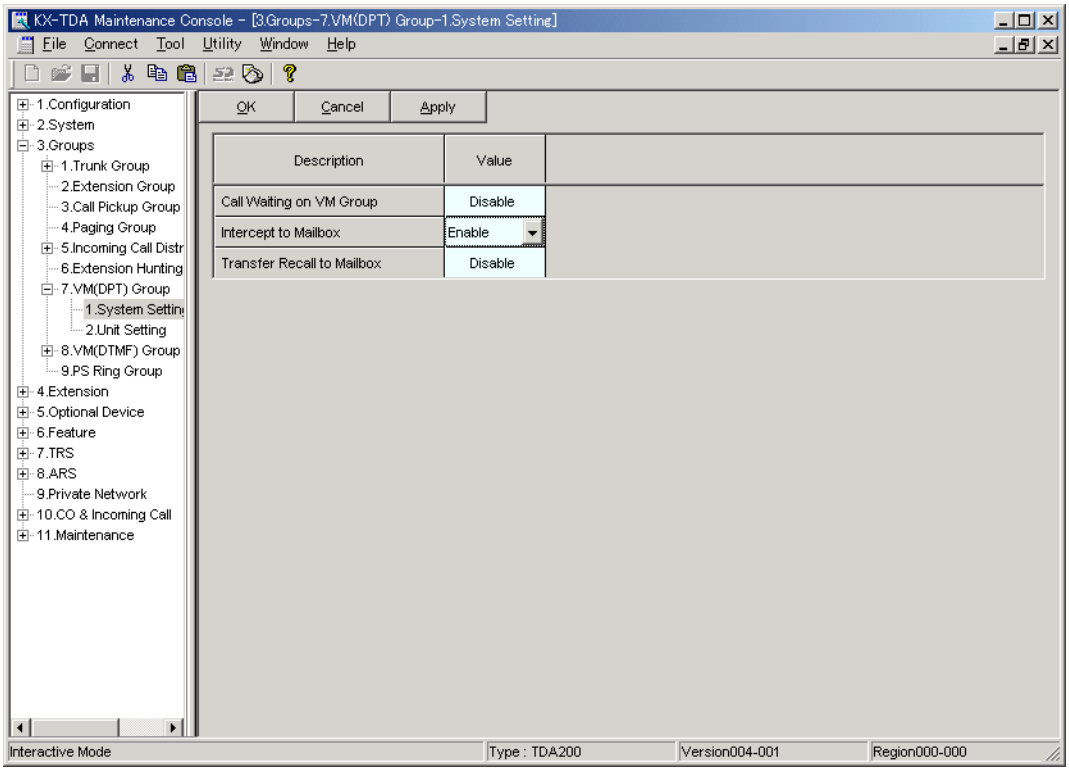


c) Program the PBX so that it will direct overflowed calls to the ICD group's mailbox.

1) **Go** to the "**Groups-VM(DPT) Group-System Setting**" screen.

2) **Select** "**Enable**" as the parameter for "**Intercept to Mailbox**".

3) **Click "Apply"** to save the changed data.



4. Make sure all installation and line connections have been done as described in Section 2 Installation.

5. Connect the jack assigned in Step 2 to the VPS.

6. Complete the PBX-VPS connection by following from step 1 of 4.8 Completing the PBX-VPS Connection.

4.3 KX-TDA Series Feature Programming for DPT Integration

The following VPS features are functional on any KX-T7xxx proprietary telephone that is connected to the PBX.

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

4.3.1 Live Call Screening (LCS) Programming

LCS notifies subscribers when messages are being recorded in their mailboxes. 2 notification methods are available: hands-free or private. Hands-free allows the user to monitor the message as it is being recorded through the speakerphone and, if desired, intercept the call by lifting the handset. Private mode notifies the user (by sounding a tone) when a message is being recorded. By pressing the LCS button, the user can monitor the message and intercept the call by going off-hook. System Programming also determines whether the VPS continues to record after the user intercepts the call.

4.3.2 Live Call Screening Password Assignment

To allow the Live Call Screening feature to work at an extension, the extension must have the LCS button lit. To light this button, press the LCS button, then enter the password. This password prevents others from activating the LCS feature and listening to the messages as they are being left. (It is not necessary to enter Personal Programming to activate this feature.) PC programming may also be used to program this feature (see 4.3.6 Live Call Screening Assignment via PC Programming).

Note

- For KX-TDA series PBXs, the term "Live Call Screening Password" used in this section indicates the Extension PIN (Personal Identification Number).

1. **Lift** the handset or **press** the **SP-PHONE** button.
2. Enter **[✳799]**.
3. Enter **[1]**.
   Screen output: Enter PIN
4. **Enter** a password (max. 10 digits), then press [#].
   Screen output: Enter PIN Again
5. **Re-enter** the password, then press [#].
   You will hear a confirmation tone, then a dial tone.
   Screen output: PIN set
6. **Hang up** or **press** the **SP-PHONE** button.

4.3.3 Live Call Screening Password Cancelling

To cancel the password, follow the procedure below. (It is not necessary to enter Personal Programming to activate this feature). PC programming is also available (see 4.3.6 Live Call Screening Assignment via PC Programming).

Note

- The term "Live Call Screening Password", used in KX-TA/KX-TD series PBXs, has the same meaning as "Extension PIN (Personal Identification Number)" used in KX-TDA series PBXs. For more information, refer to the KX-TDA series manuals.

1. **Lift** the handset or **press** the **SP-PHONE** button.
2. Enter **[✳799]**.
3. Enter **[0]**.
   Screen output: Enter PIN
4. **Enter** the extension's password.
   You will hear a confirmation tone, then a dial tone.
   Screen output: PIN cleared
5. **Hang up** or **press** the **SP-PHONE** button.

4.3.4 Live Call Screening Recording Mode Assignment

This program allows the VPS to continue recording the conversation in the mailbox after the extension intercepts the call during the Live Call Screening. (This is station level programming and should be done at each individual telephone.)

1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. Enter **[26]**.
   Screen output: Rec. after LCS
3. **Press** the **ENTER** button.
4. **Press** the **SELECT** button (AUTO ANSWER) until the desired selection is displayed.
   Screen output: Stop Record/Keep Record
5. **Press** the **STORE** button.
6. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
7. Repeat these steps for each telephone.

4.3.5 Live Call Screening Private/Hands-Free Mode Assignment

This program assigns a VPS response for when a message is being left in a mailbox. It determines whether an alarm tone is sent and whether the recorded message is played through the built-in speaker of the extension. The default mode is hands-free. (This is station level programming and should be done at each individual telephone.) PC programming is also available (see 4.3.6 Live Call Screening Assignment via PC Programming).

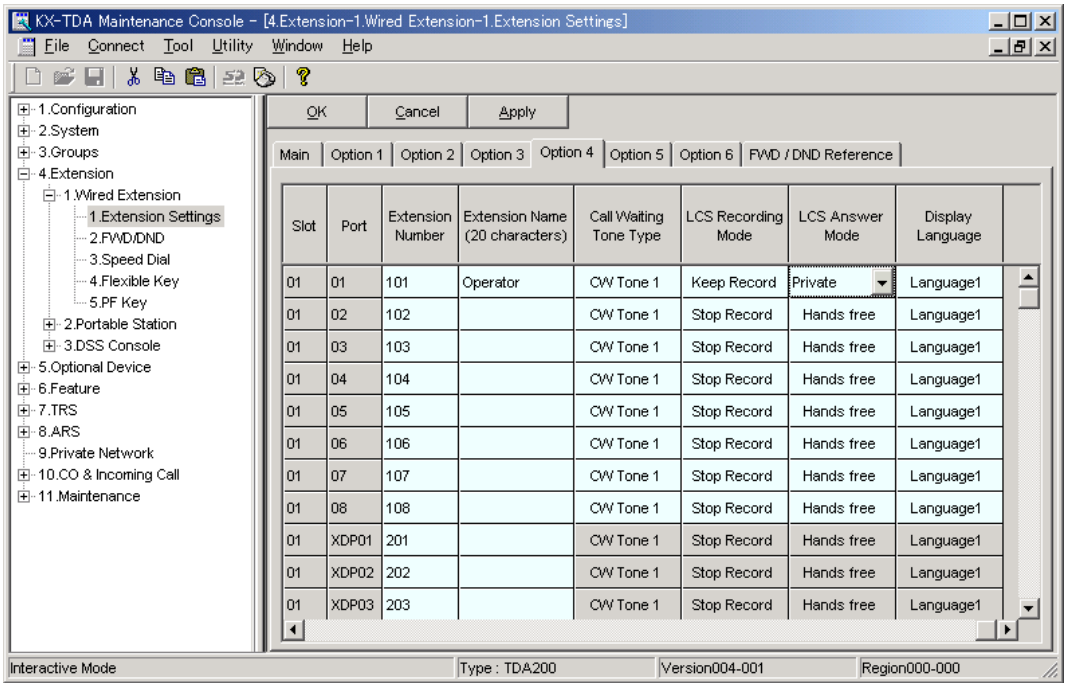
1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. Enter **[25]**.
   Screen output: LCS Private
3. **Press** the **ENTER** button.
4. **Press** the **SELECT** button until the desired selection is displayed.
   Screen output: Hands-Free/Private
5. **Press** the **STORE** button.
6. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
7. Repeat these steps for each telephone.

A single line telephone that is connected to the same extension as a proprietary telephone can also be used to monitor an incoming message. Be sure that Live Call Screening on the connected proprietary telephone has been activated. This feature is useful when you are using a cordless telephone. The handset sounds an alarm tone to let you know that a message is being recorded. To intercept the call, hang up and go off-hook.

4.3.6 Live Call Screening Assignment via PC Programming

The KX-TDA series users can program Live Call Screening features via PC programming. Follow the procedure below to assign each feature.

1. **Go** to "**Extension-Wired Extension-Extension Settings**" screen.



Note

- The screen shot above is an example of the KX-TDA200.

2. **Select "Option 4"** window of the extension for which you want to program.
3. **Assign** LCS Recording Mode to **"Keep Record"** or **"Stop Record"**.
4. **Assign** LCS Answer Mode to **"Hands free"** or **"Private"**.
5. **Click "Apply"** to save the changed data.

4.3.7 Live Call Screening Button Assignment

For the Live Call Screening feature to work at an extension, the extension must have an LCS button lit at the time of the message reception. This button must either be a DSS/BLF or CO button with a lamp. Follow the procedure below to assign an LCS button on an extension. (This is station level programming and should be done at each individual telephone.) PC programming is also available (see 4.3.12 Button Assignment via PC Programming).

1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. **Press** the desired **Flexible** (**CO** or **DSS/BLF**) button you want to assign as the LCS button.
3. Enter **[92]**.
   Screen output: LCS
4. **Press** the **STORE** button.
5. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
6. Repeat these steps for each telephone.

Conditions: ***This button must be assigned and lit for LCS to operate. To light this button, press the button and enter the LCS password (see 4.3.2 Live Call Screening Password Assignment).***

4.3.8 Two-way Recording (TWR) Button Assignment

For the Two-way Recording feature to work at an extension, the extension must have a TWR button. This button must either be a DSS/BLF or CO button with a lamp. Follow the procedure below to assign a TWR button on an extension. (This is station level programming and should be done at each individual telephone.) PC programming is also available (see 4.3.12 Button Assignment via PC Programming).

1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. **Press** the desired **Flexible (CO** or **DSS/BLF)** button that you want to assign as the TWR button.
3. **Press [90]**.
   Screen output: 2WAY-REC-
4. **Enter** a Voice Mail floating extension number.
   Screen output: 2WAY-REC- _ _ _
   (_ _ _ = The Voice Mail floating extension number you entered).
5. **Press** the **STORE** button.
6. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
7. Repeat these steps for each telephone.

Conditions: ***This button must be a flexible (CO or DSS/BLF) button to be programmed as a TWR button. When all Voice Mail ports are busy and this key is pressed, the user will hear a warning tone.***

4.3.9 Two-way Transfer (TWT) Button Assignment

For the Two-way Transfer feature to work at an extension, the extension must have a TWT button on it. This button must either be a DSS/BLF or CO button with a lamp. Follow the procedure below to assign a TWT button on an extension. (This is station level programming and should be done at each individual telephone.) PC programming is also available (see 4.3.12 Button Assignment via PC Programming).

1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. **Press** the desired **Flexible (CO** or **DSS/BLF)** button that you want to assign as the TWT button.
3. **Press [91]**.
   Screen output: 2WAY-Xfr-
4. **Enter** a Voice Mail floating extension number.
   Screen output: 2WAY-Xfr- _ _ _
   (_ _ _ = The Voice Mail floating extension number you entered).
5. **Press** the **STORE** button.
6. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
7. Repeat these steps for each telephone.

Conditions: ***This button must be a flexible (CO or DSS/BLF) button to be programmed as a TWT button. When all Voice Mail ports are busy and this key is pressed followed by an extension number, the user will hear a warning tone.***

4.3.10 One-Touch Two-way Transfer (One-Touch TWT) Button Assignment

For the One-Touch Two-way Transfer feature to work at an extension, the extension must have a One-Touch TWT button on it. This button must either be a DSS/BLF or CO button with a lamp. Follow the procedure below to assign a One-Touch TWT button on an extension. (This is station level programming and should be done at each individual telephone.) PC programming is also available (see 4.3.12 Button Assignment via PC Programming).

1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. **Press** the desired **Flexible** (**CO** or **DSS/BLF**) button you want to assign as the One-Touch TWT button.
3. **Press [91]**.
   Screen output: 2WAY-Xfr-
4. **Enter** a Voice Mail floating extension number.
   Screen output: 2WAY-Xfr- _ _ _
   (_ _ _ = The Voice Mail floating extension number you entered).
5. **Press [#]**.
6. **Enter** a Transferred extension number.
   Screen output: 2WAY-Xfr-_ _ _#_ _ _
   (#_ _ _ = The Transferred extension number you entered).
7. **Press** the **STORE** button.
8. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
9. Repeat these steps for each telephone.

Conditions: ***This button must be a flexible (CO or DSS/BLF) button to be programmed as a One-Touch TWT button. When all Voice Mail ports are busy and this key is pressed, the user will hear a warning tone.***

4.3.11 Voice Mail Transfer (VTR) Button Assignment

For the Voice Mail Transfer feature to work at an extension, the extension must have the VTR button. This button must either be a DSS/BLF or CO button with a lamp. Follow the procedure below to assign a VTR button on an extension. (This is station level programming and should be done at each individual telephone.) PC programming is also available (see 4.3.12 Button Assignment via PC Programming).

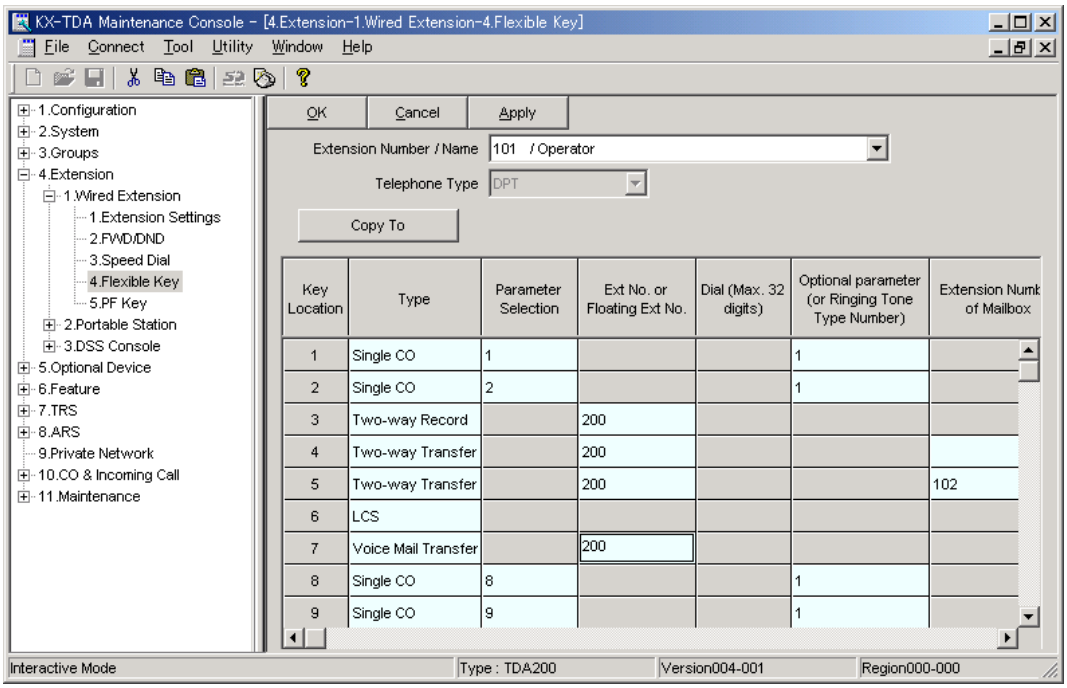
1. Enter Personal Programming:
   While on-hook, **press** the **PROGRAM** button.
   (Display changes to PT-PGM Mode.)
2. **Press** the desired **Flexible** (**CO** or **DSS/BLF**) button that you want to assign as the VTR button.
3. **Press [94]**.
   Screen output: VTR-
4. **Enter** a Voice Mail floating extension number.
   Screen output: VTR- _ _ _
   (_ _ _ = The Voice Mail floating extension number you entered).
5. **Press** the **STORE** button.
6. **Press** the **PROGRAM** button or lift the handset to exit the Personal Programming mode.
7. Repeat these steps for each telephone.

Conditions: ***This button must be a flexible (CO or DSS/BLF) button to be programmed as a VTR button. When all Voice Mail ports are busy and this key is pressed followed by an extension number, the user will hear either a dial tone or a busy tone, depending on the Call Waiting on VM Group setting on the PBX.***

4.3.12 Button Assignment via PC Programming

The KX-TDA series users can assign buttons for Live Call Screening (LCS), Two-way Recording (TWR), Two-way Transfer (TWT), and Voice Mail Transfer (VTR) via PC Programming. Follow the procedure below to assign each button.

1. **Go** to **"Extension-Wired Extension-Flexible Key"** screen.



Note

- The screen shot above is an example of the KX-TDA200.

2. **Select "Extension Number / Name"** for which you want to program.
3. **Assign** the desired Key Type to the Key Location you wish to program. When "Two-way Record", "Two-way Transfer" or "Voice Mail Transfer" is selected, enter the VM Port floating extension number in "Ext No. or Floating Ext No.". When "Two-way Transfer" is selected, you can enter the extension number of a desired destination under "Extension Number of Mailbox". If no extension number is assigned, you will have to enter an extension number each time you use the Two-way Transfer feature.
4. Repeat these steps for each extension.
5. **Click "Apply"** to save the changed data.

4.3.13 Live Call Screening Activation

To activate Live Call Screening, follow the steps below. PC programming is also available (see 4.3.7 Live Call Screening Button Assignment and 4.3.12 Button Assignment via PC Programming).

1. **Press** the assigned **LCS Button**.
2. **Enter** the assigned **LCS Password**.
3. Confirm that the assigned **LCS Button** is red-on.
4. Repeat these steps for each telephone.

Conditions: ***To activate Live Call Screening, it is necessary to light the LCS button after assigning the LCS password and LCS button.***

4.3.14 Two-way Recording (TWR) into Mailbox

This feature allows extension users to record conversations into their own mailboxes by pressing the Two-way Recording (TWR) button.

4.3.15 Two-way Transfer (TWT) into Mailbox

This feature allows an extension user to record a conversation into another person's mailbox by pressing the Two-way Transfer (TWT) button and dialling the extension number. This is commonly used by a person who is taking a detailed message for someone else and wants the message recorded in the other person's mailbox at the same time.

4.3.16 One-Touch Two-way Transfer (One-Touch TWT) into Mailbox

This feature allows an extension user to record a conversation into another person's mailbox by pressing the One-Touch Two-way Transfer (One-Touch TWT) button. This is commonly used by a person who is taking a detailed message for someone else and wants the message recorded in the mailbox at the same time.

4.3.17 Voice Mail Transfer (VTR) Programming

This feature allows extension users to transfer calls directly to a mailbox.
This is available with APT/DPT and Inband Integration.

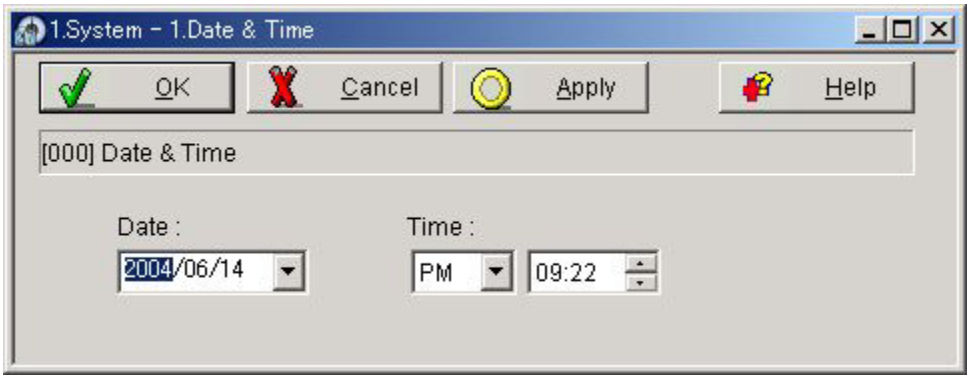
4.4 KX-TE Series PBX Programming for APT Integration

The instructions in this section are for programming a KX-TE series PBX via the Operating and Maintenance Tool. To program a KX-TE series PBX using the Manager Extension, follow the instructions for KX-TA series PBX programming by referring to 4.7 KX-TA Series PBX Programming for APT Integration.

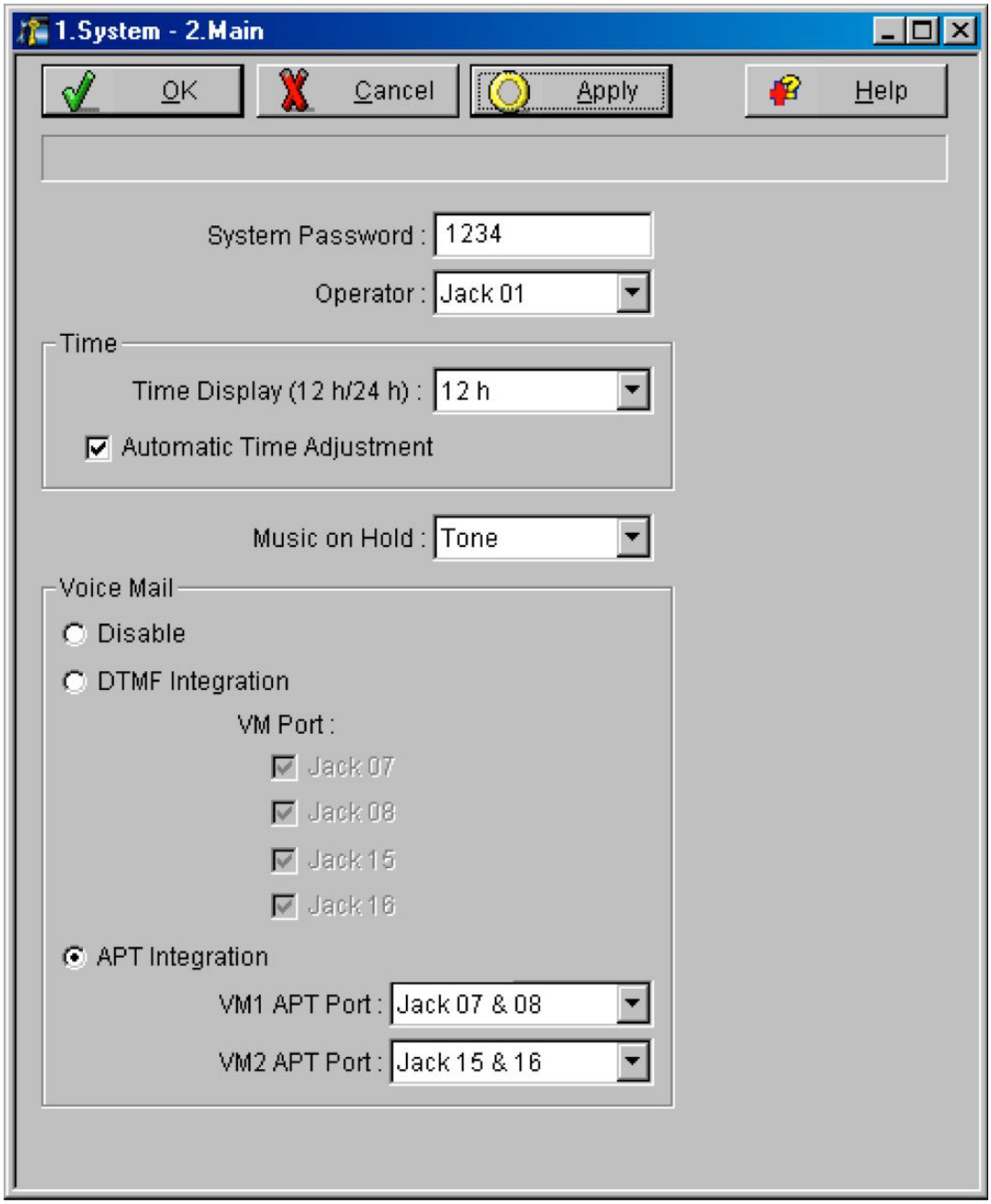
Note

- For KX-TES824/TEM824, PBX software version 1.0.38 or later is required for APT Integration. Consult your dealer for more information.

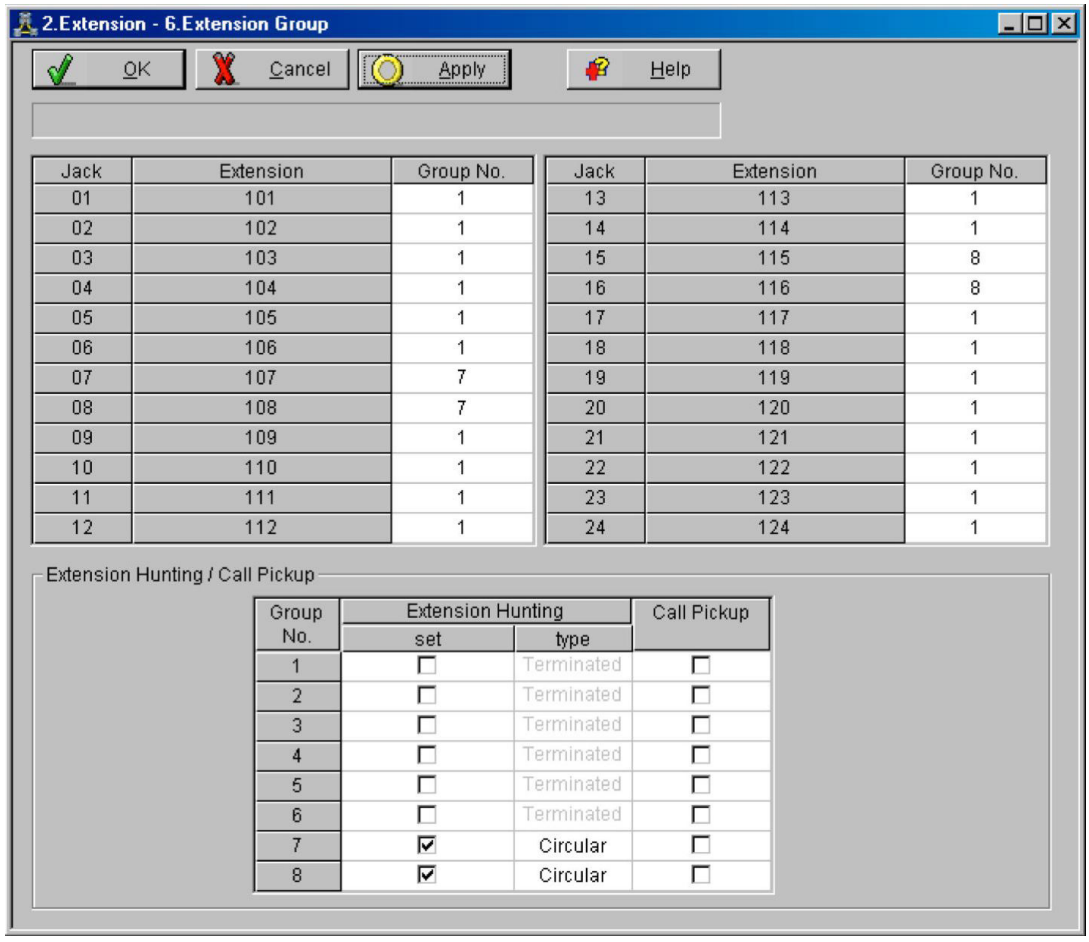
1. Go to the "1.System-1.Date & Time" screen. Set the date and time. Click "Apply" to save the changed data.



2. Go to the "1.System-2.Main" screen.
Under "Voice Mail", select "APT Integration", then select each extension jack that is connected to the VPS. Click "Apply" to save the changed data.



When "Jack 7 & 8" is selected, extension jack numbers 07 and 08 will be in extension group 7 automatically. Likewise, when "Jack 15 & 16" is selected, extension jack numbers 15 and 16 will be in extension group 8 automatically. Also the Extension Hunting type is set as "Circular" automatically in each of these 2 extension groups. You can confirm these automatic settings in the "2.Extension-6.Extension Group" screen.

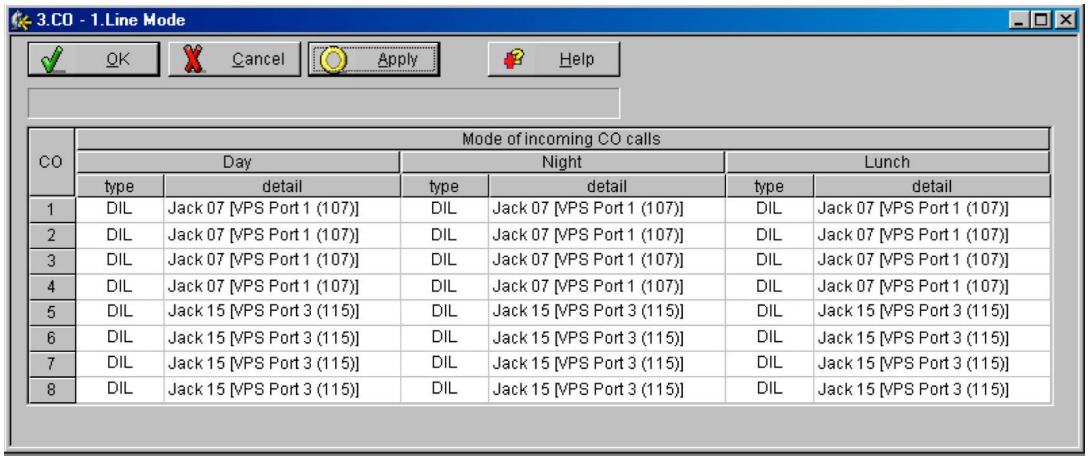


Jack	Extension	Group No.	Jack	Extension	Group No.
01	101	1	13	113	1
02	102	1	14	114	1
03	103	1	15	115	8
04	104	1	16	116	8
05	105	1	17	117	1
06	106	1	18	118	1
07	107	7	19	119	1
08	108	7	20	120	1
09	109	1	21	121	1
10	110	1	22	122	1
11	111	1	23	123	1
12	112	1	24	124	1

Group No.	Extension Hunting		Call Pickup
	set	type	
1	☐	Terminated	☐
2	☐	Terminated	☐
3	☐	Terminated	☐
4	☐	Terminated	☐
5	☐	Terminated	☐
6	☐	Terminated	☐
7	☑	Circular	☐
8	☑	Circular	☐

Example trunk feature settings:

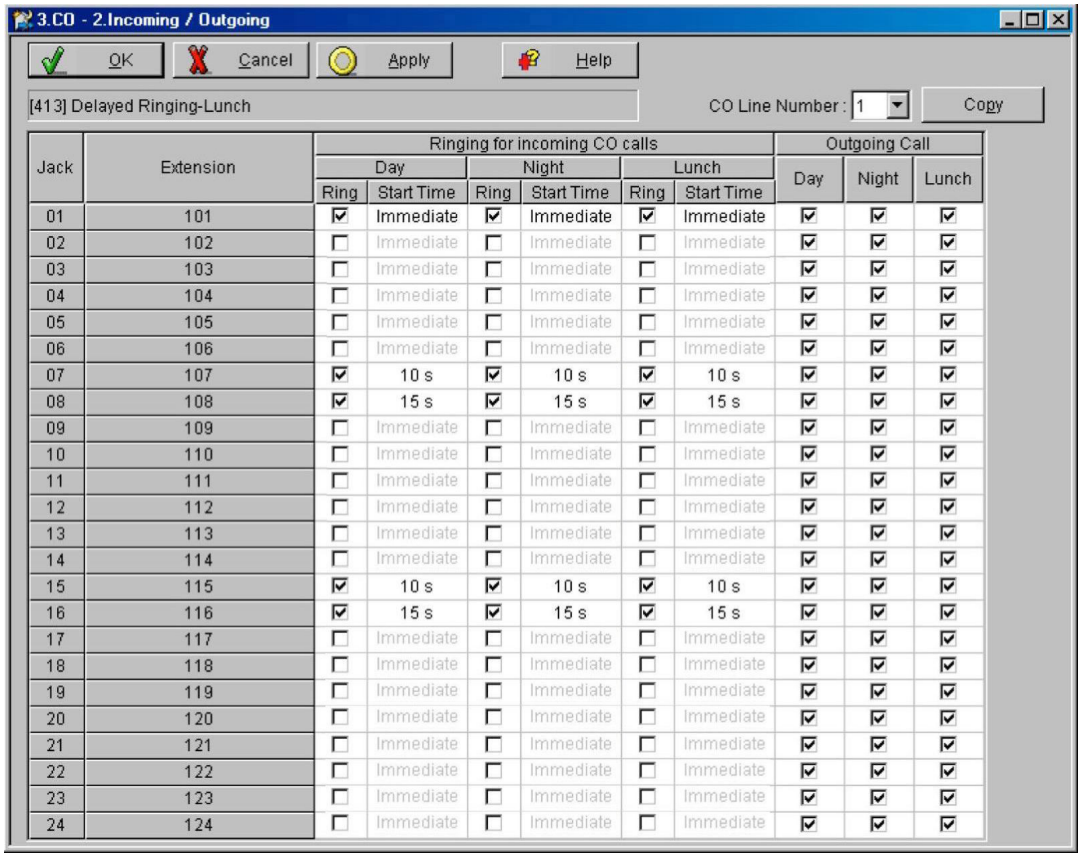
a) If the VPS is answering all calls:
Go to the "3.CO-1.Line Mode" screen. Program all lines DIL to the first extension of the Voice Mail hunt group. The PBX will allow incoming trunk calls to hunt only if the trunks are DIL to the first port of the hunt group. Lines programmed as "Normal" do not hunt. Click "Apply" to save the changed data.



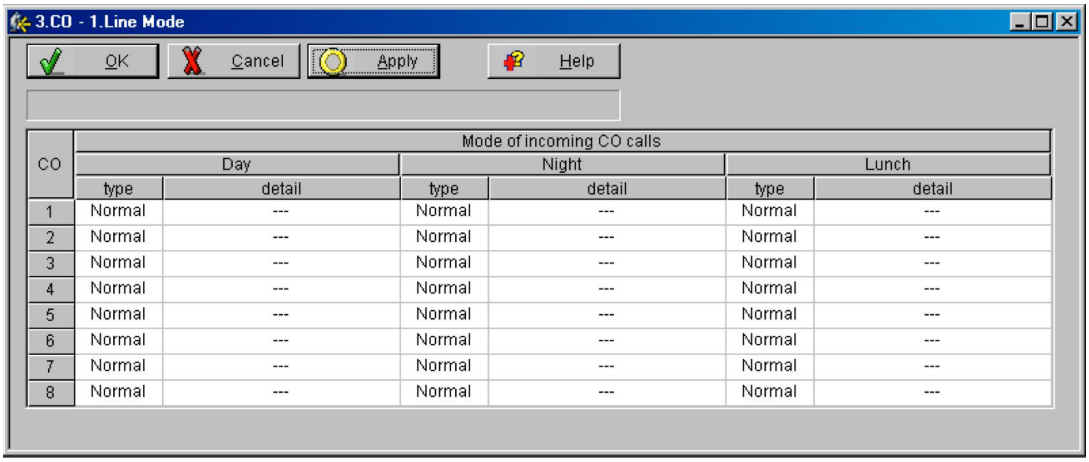
CO	Mode of incoming CO calls					
	Day		Night		Lunch	
	type	detail	type	detail	type	detail
1	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]
2	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]
3	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]
4	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]	DIL	Jack 07 [VPS Port 1 (107)]
5	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]
6	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]
7	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]
8	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]	DIL	Jack 15 [VPS Port 3 (115)]

b) If the VPS is only answering calls not answered by the operator (Operator Backup):
Go to the "3.CO-2. Incoming / Outgoing" screen. Program lines to ring operator extensions

immediately for all time modes. To give the operator time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Finally, go to the "3.CO-Line Mode" screen and set all trunk types to "Normal". Click "Apply" to save the changed data.



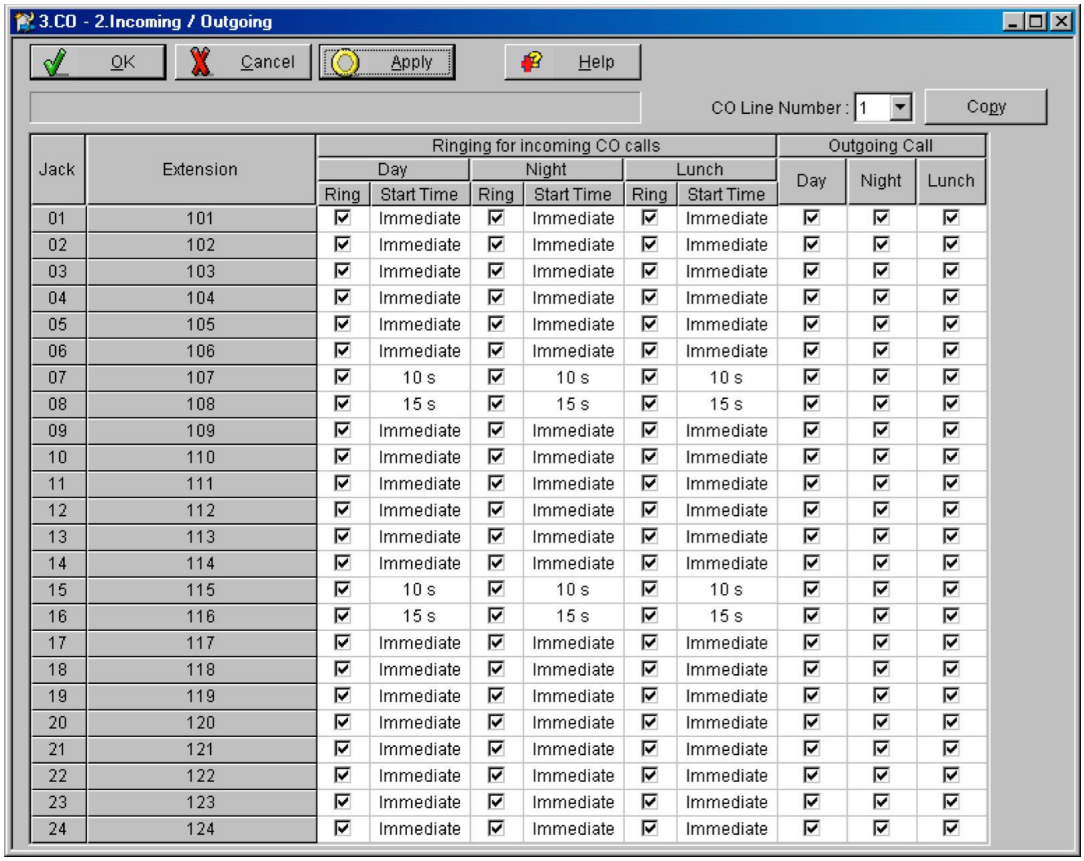
Jack	Extension	Ringing for incoming CO calls						Outgoing Call		
		Day		Night		Lunch		Day	Night	Lunch
		Ring	Start Time	Ring	Start Time	Ring	Start Time			
01	101	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
02	102	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
03	103	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
04	104	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
05	105	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
06	106	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
07	107	☑	10 s	☑	10 s	☑	10 s	☑	☑	☑
08	108	☑	15 s	☑	15 s	☑	15 s	☑	☑	☑
09	109	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
10	110	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
11	111	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
12	112	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
13	113	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
14	114	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
15	115	☑	10 s	☑	10 s	☑	10 s	☑	☑	☑
16	116	☑	15 s	☑	15 s	☑	15 s	☑	☑	☑
17	117	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
18	118	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
19	119	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
20	120	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
21	121	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
22	122	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
23	123	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
24	124	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑



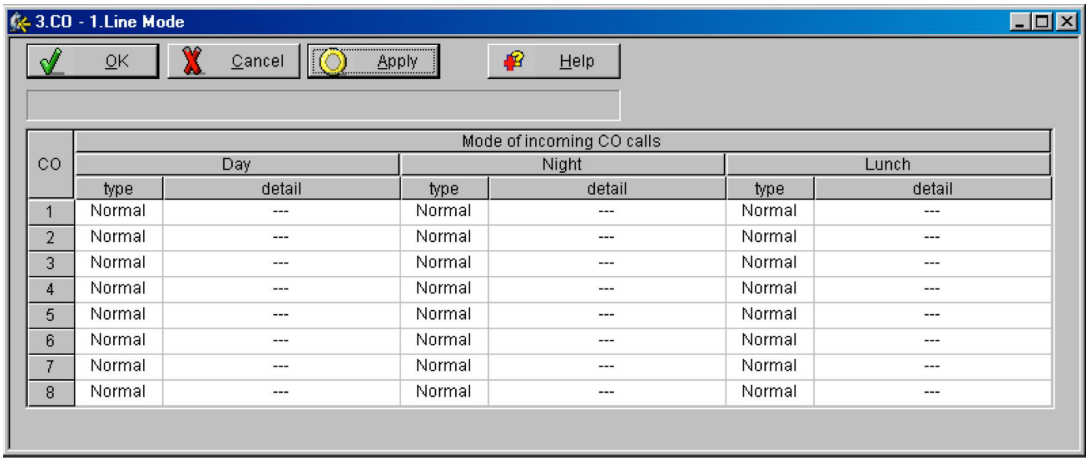
CO	Mode of incoming CO calls					
	Day		Night		Lunch	
	type	detail	type	detail	type	detail
1	Normal	---	Normal	---	Normal	---
2	Normal	---	Normal	---	Normal	---
3	Normal	---	Normal	---	Normal	---
4	Normal	---	Normal	---	Normal	---
5	Normal	---	Normal	---	Normal	---
6	Normal	---	Normal	---	Normal	---
7	Normal	---	Normal	---	Normal	---
8	Normal	---	Normal	---	Normal	---

c) If the VPS is only answering calls not answered by user extensions:
Go to the "3.CO-2. Incoming / Outgoing" screen. Program lines to ring user extensions immediately for all time modes. To give users time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the

VPS. Set a different delay time for each extension connected to the VPS. Finally, go to the "3.CO-Line Mode" screen and set all trunk types to "Normal". Click "Apply" to save the changed data.



Jack	Extension	Ringing for incoming CO calls						Outgoing Call		
		Day		Night		Lunch		Day	Night	Lunch
		Ring	Start Time	Ring	Start Time	Ring	Start Time			
01	101	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
02	102	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
03	103	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
04	104	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
05	105	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
06	106	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
07	107	☑	10 s	☑	10 s	☑	10 s	☑	☑	☑
08	108	☑	15 s	☑	15 s	☑	15 s	☑	☑	☑
09	109	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
10	110	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
11	111	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
12	112	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
13	113	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
14	114	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
15	115	☑	10 s	☑	10 s	☑	10 s	☑	☑	☑
16	116	☑	15 s	☑	15 s	☑	15 s	☑	☑	☑
17	117	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
18	118	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
19	119	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
20	120	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
21	121	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
22	122	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
23	123	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
24	124	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑



CO	Mode of incoming CO calls					
	Day		Night		Lunch	
	type	detail	type	detail	type	detail
1	Normal	---	Normal	---	Normal	---
2	Normal	---	Normal	---	Normal	---
3	Normal	---	Normal	---	Normal	---
4	Normal	---	Normal	---	Normal	---
5	Normal	---	Normal	---	Normal	---
6	Normal	---	Normal	---	Normal	---
7	Normal	---	Normal	---	Normal	---
8	Normal	---	Normal	---	Normal	---

3. Complete the PBX-VPS connection by following from step 1 of 4.8 Completing the PBX-VPS Connection.

4.5 KX-TD Series PBX Programming for DPT Integration

For KX-TD500 programming, refer to 4.6 KX-TD500 PBX Programming for DPT Integration.

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

Note

- Do not use system programs [106] or [602] for DPT Integration.
- The next 2 sections (4.5.1 KX-TD Series PBX Programming via the Manager's Extension and 4.5.2 KX-TD1232 Series PBX Programming via the Operating and Maintenance Tool) use the KX-TD1232 as an example. Refer to these examples when configuring the KX-TD612 and KX-TD816.

4.5.1 KX-TD Series PBX Programming via the Manager's Extension

For KX-TD500 programming, refer to 4.6 KX-TD500 PBX Programming for DPT Integration.

It is important that the PBX has the proper software level to allow DPT Integration with the VPS. Follow the procedures below to confirm the software level, then complete the required programming before starting up the VPS.

Note

- There are 2 methods of programming available for the KX-TD1232. The instructions below show how to program without the operating and maintenance tool. For instructions on programming with the operating and maintenance tool, please see 4.5.2 KX-TD1232 Series PBX Programming via the Operating and Maintenance Tool.

All of the following procedures must be performed through system programming. Refer to the KX-TD1232 Programming Guide or Installation Manual for instructions on how to enter the system programming mode.

Software Verification

1. Verify Software—If you are configuring a 2-cabinet system, remember to check both cabinets. The software must be the same in each. Check the software version of the KX-TD1232 using System Program **[116]**.

   Example: **P231U60403XX**

   The underlined digits represent the software production date code (year, month, day). For DPT Integration, the production date must be 60403 or later.

   If the software version of the PBX is lower than this, you may not be able to utilise some of the features available only with DPT Integration. For more information, consult your dealer.

   *From the **SYS-PGM NO ?** screen:*

   a) Enter [116].

   b) Press the **NEXT** button (SP-PHONE).

c) **Enter** the system number (**[0]** or **[1]**, master/slave). The PBX displays the ROM version and the date it was created.

2. **Set** the date and time using System Program **[000]**.

3. **Set** PBX extension numbering using System Program **[003]**.

4. **Assign** the **Voice Mail port**. This program tells the PBX which jack will be connected to the VPS. This allows the PBX to send the proper DPT Integration information to those ports.

Note

- You can assign a maximum of 6 jacks (12 ports) with the KX-TD816 and KX-TD1232.
- If you are configuring a 2-cabinet system, all Voice Mail Ports should be assigned to either the Master or Slave System.

*From the **SYS-PGM NO ?** screen:*

a) **Enter [117] (or [126]).**

b) **Press** the **NEXT** button (SP-PHONE).
Screen output: M:

c) **Enter** the jack number **(02-64)** of the port you will use for the Voice Mail.

d) **Press** the **STORE** button.

e) **Press END** (HOLD) when finished.

Conditions: ***Jack 01 cannot be used as a Voice Mail port. A jack programmed as a Manager Extension (System Program [006]) cannot be used in this program.***

5. Follow this step if you are setting flexible numbering. If you are not setting flexible numbering, continue from step 6.

Voice Mail Extension Number Assignment is automatically set. Use System Program [118] or [127] to assign an extension number to each Voice Mail port. Because each jack connected to the VPS provides 2 extensions, this enables you to assign extension numbers to each port. You can assign any extension number that is not already assigned to another port. To reach the VPS, users dial these extension numbers. It is not necessary to change the default programming for the extensions 165 and 166 (or 265 and 266).

*From the **SYS-PGM NO ?** screen:*

a) **Enter [118] (or [127]).**

b) **Press** the **NEXT** button (SP-PHONE).

Screen output: VM NO? →

c) **Press** the **NEXT** button (SP-PHONE).
Screen output: VM-01:#_ _ -1: 165 (or 265)
_ _ = the port number you entered in program 117 (or 126)

d) **Enter** the **Extension Number** that you want this port to have.
The default extension number for port 1: 165 (or 265); port 2: 166 (or 266)

e) **Press** the **STORE** button.

f) Repeat steps c, d, and e until all extension numbers are entered.

Conditions: ***No 2 jacks on the PBX can have the same extension number. If you try to enter a number that is already assigned, you will hear an error tone. Each digital extension connected provides 2 Voice Mail ports and must have 2 different extension numbers assigned.***

6. Make sure all installation and line connections have been completed as described in Section 2 Installation.

7. **Connect** the **jack** assigned in Step 4 to the VPS.

8. Complete the PBX-VPS connection by following from step 1 of 4.8 Completing the PBX-VPS Connection.

4.5.2 KX-TD1232 Series PBX Programming via the Operating and Maintenance Tool

Follow these steps after communication between the KX-TD1232 and the programming software has been established. Refer to the Operating and Maintenance manual for connection information.

1. Check the software version.

a) **Go** to the *Main Menu*. **Press** the **ALT** key and the letter **[V]** at the same time.

b) Verify the Operating and Maintenance version being used.

Sample display: *Connect DSHS: KX-TD1232*
ROM Version: [---P231UxxxxxB] CAN
DB data (PC): Empty
Version: 4.03A5 [0008301332] MUK

Note

- If you have an older version of the maintenance tool but have the correct ROM version in the PBX, you may still program the KX-TD1232 but you must program using the Manager's Extension.

c) Verify the ROM version of the KX-TD1232.

Example: **P231U60403XX**

The underlined digits represent the software production date code (year, month, day). For DPT Integration, the production date must be 60403 or later.

If the software version of the PBX is lower than this, you may not be able to utilise some of the features available only with DPT Integration. For more information, consult your dealer.

2. **Go** to the *Main Menu.* **Choose "System Data Programming"** (BATCH [1] or INTERACTIVE [2]).

3. **Choose "System"** from the *System Data Programming Main Menu.*

4. **Choose "Voice Mail Integration"** from the *System Menu.*

5. First, **enter** the **port numbers** that will be connected to the VPS. If desired, change the default extension numbers of the Voice Mail ports.

6. ***Step 6 should only be completed if the VPS is going to answer all incoming trunk calls directly.***

   Return to the *System Data Programming Main Menu.* **Select "Line"** and then **select "CO Line Setting 1"** or **"CO Line Setting 2"**. Program all lines DIL to the first extension of the Voice Mail hunt group.

7. Continue from step 5 of 4.5.1 KX-TD Series PBX Programming via the Manager's Extension.

4.6 KX-TD500 PBX Programming for DPT Integration

Follow the procedure below to program the VPS card(s) for DPT Integration.

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

1. Assignment of the VPS card to be connected to the VPS

Note

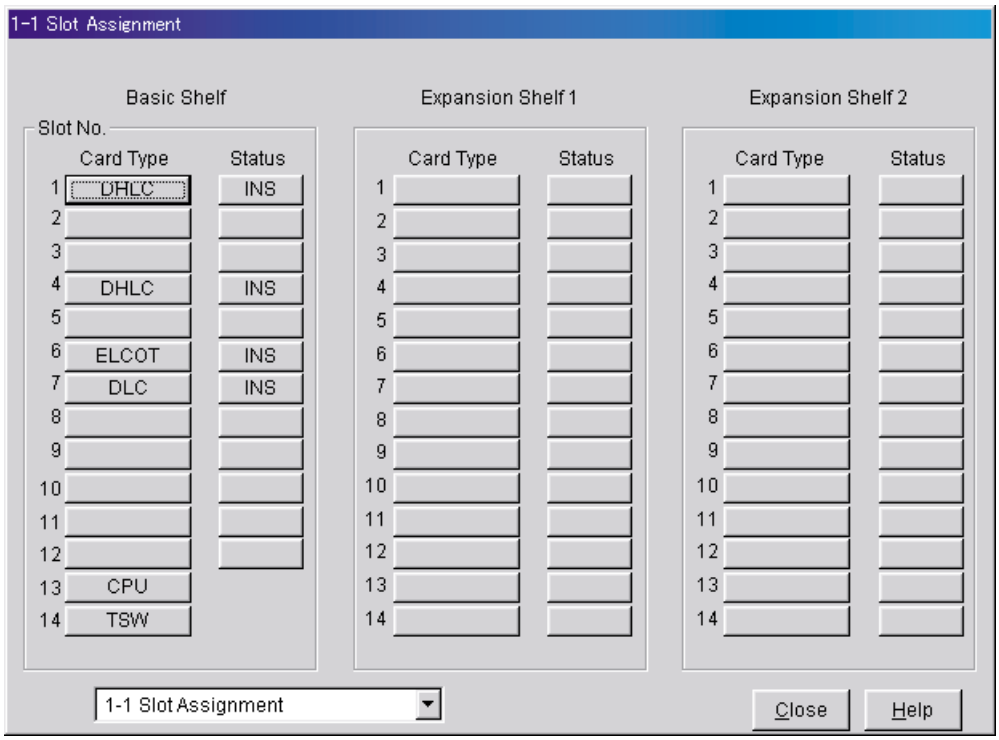
- If the extension card that will be connected to the VPS is already installed, skip to step 2.

a) **Go** to the "**1-1 Slot Assignment**" screen.

b) **Set** the "**Card Type**" of the card appropriately (either **DLC** or **DHLC**, depending on the type of card installed).

c) **Click "Apply"** to save the card type assignment.

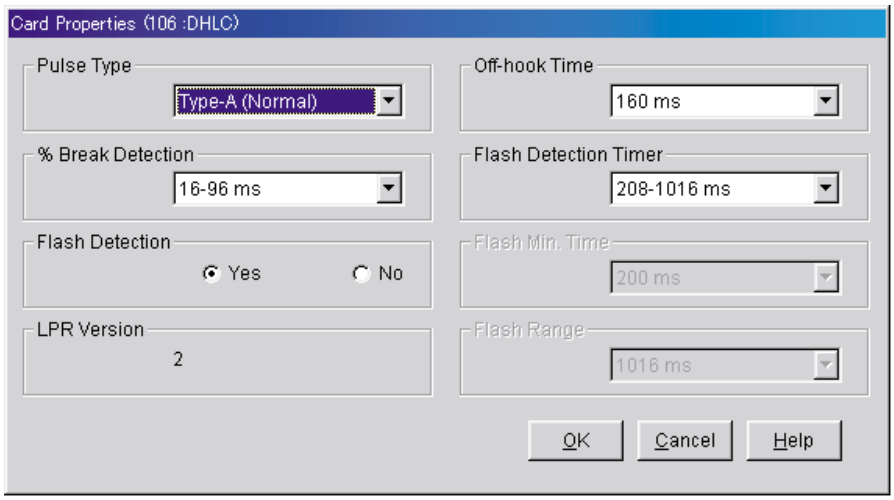
d) **Set "Status"** to **"INS".**



2. Confirm the LPR version of the card.

Note

- The LPR Version must be "2" or higher for the first VPS card (101: DLC/DHLC), or "1" or higher for the second VPS card (104: DLC/DHLC).



3. Assignment of the ports to be connected to the VPS

a) **Go** to the **"1-3 Extension Port Assignment"** screen.

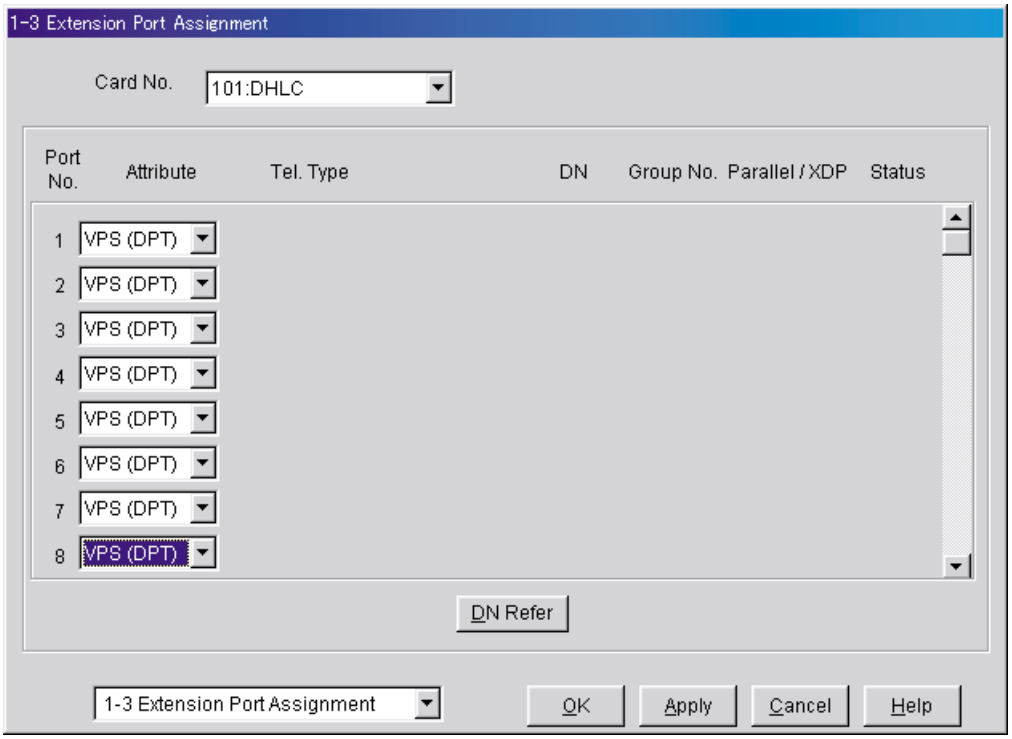
b) **Select** the appropriate VPS card (101: DLC/DHLC or 104: DLC/DHLC) in the **"Card No."** menu.

c) **Set** the attribute of the valid ports to be connected to the VPS to **"VPS (DPT)".**

d) **Click "Apply"** to save the changed data.

Note

- All parameters except for "Attribute" will disappear and the DN (Directory Number) will be cleared.



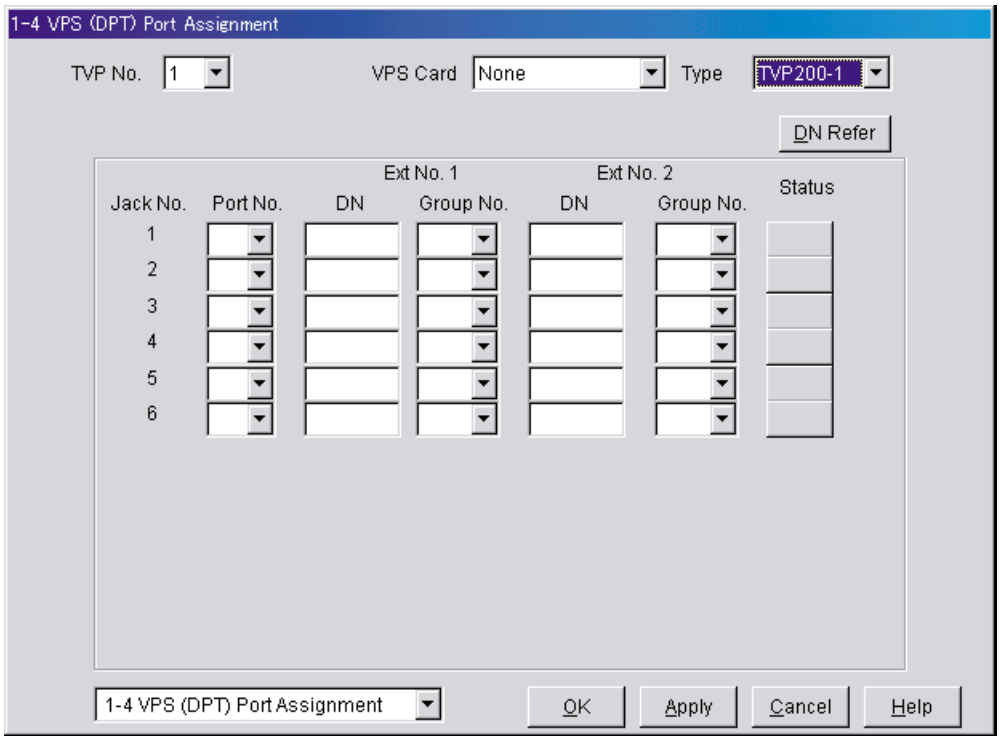
4. Assignment of VPS card and its model

a) **Go** to the **"1-4 VPS (DPT) Port Assignment"** screen.

b) **Select** the appropriate VPS unit number from the **"TVP No."** menu.

c) **Select** your VPS model in the "Type" menu.
TVM50: Select "TVP200-1"
TVM200 AL, NZ, SP, NL, JT, G, SE: Select "TVP200-1"
All other TVM200 models: Select "TVP300"

d) **Select** the card (101: DLC/DHLC for jacks 1-8; 104: DLC/DHLC for jacks 9-12) which connects with the VPS in the **"VPS Card"** menu.



5. Assignment of the extension ports connected to the VPS

a) Continue the programming in the "1-4 VPS (DPT) Port Assignment" screen.

b) **Select** the extension port number of the card (DLC/DHLC) to which the VPS (DPT) jack is to be connected to in the **"Port No."** menu.

Note

- Depending on the software version of the KX-TD500, you can assign a maximum of 12 jacks (24 ports) with the KX-TD500.
- This menu is displayed only when the attribute of the ports is assigned to "VPS (DPT)" in step 2.
- This program tells the KX-TD500 which extension ports are connected to the VPS. This allows the KX-TD500 to send the proper Digital Integration information to these ports.
- Jack No.1 must be assigned, because its port is used as the channel to control the VPS.

c) **Assign "DN"** for the port (click **"DN Refer"** to check the available directory numbers).

Note

- This program allows you to assign an extension number to each Voice Mail port. Since each port connected to the VPS provides two extensions, this enables you to assign extension numbers to each port. To reach the VPS, users dial these extension numbers.

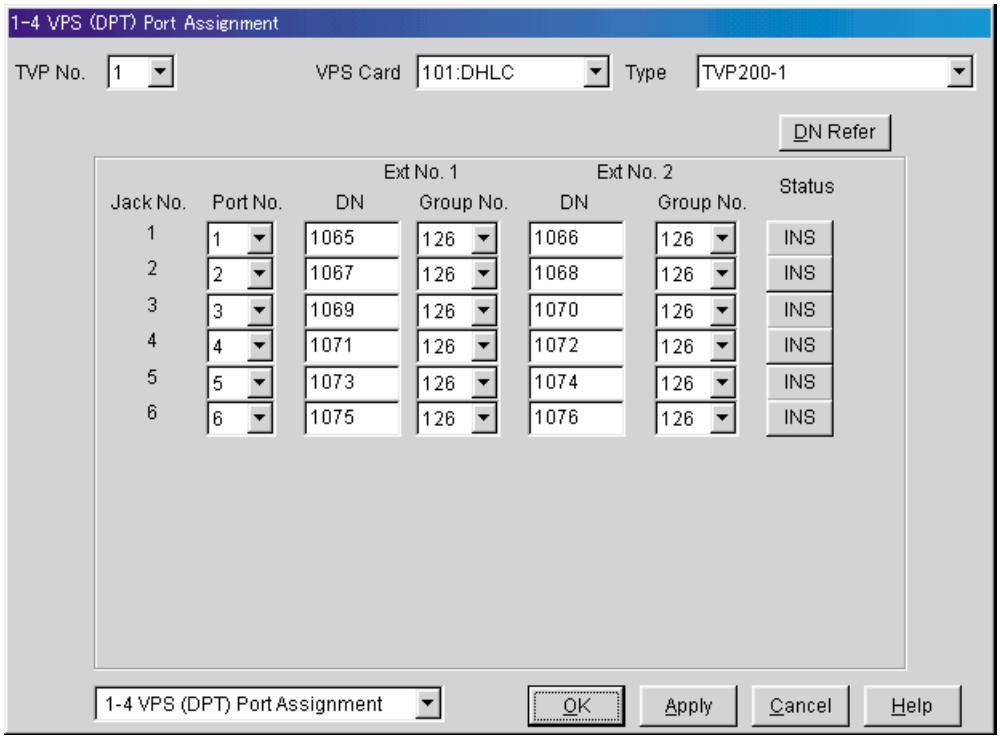
d) **Assign "Extension Group No."** for the port.

Note

- Specify the extension group number (126 or 127 by default) to which VM or AA is assigned. Group numbers 1 to 128 are available to the VPS through additional programming.
  (Selecting VM has the same effect as selecting AA, regardless of how the VPS is programmed.)

e) **Click "Apply"** to save the changed data.

f) **Set "Status"** to **"INS".**



6. To set the trunk features, follow the instructions in "Settings for the trunk features" (5.6 KX-TD500 PBX Programming for Inband Integration).

Note

- If you want to use the features which utilise DID numbers (e.g., Toll Saver, DID Call Routing), consult your dealer for information on sending DID numbers to the VPS.

7. Make sure all installation and line connections have been completed as described in Section 2 Installation.

8. **Connect** the **jack** assigned in Step 4 to the VPS.

9. Complete the PBX-VPS connection by following from step 1 of 4.8 Completing the PBX-VPS Connection.

4.7 KX-TA Series PBX Programming for APT Integration

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

Note

- The following procedures can also be used for KX-TE series PBXs if programming via the Manager Extension is preferred.
- For KX-TES824/TEM824, PBX software version 1.0.38 or later is required for APT Integration. Consult your dealer for more information.

It is important that the PBX has the proper software level to allow APT Integration with the VPS. Follow the procedures below to confirm the software level, then complete the required programming before starting up the VPS.

All of the following procedures must be completed after entering system programming. Refer to the KX-TA series Installation Manual for instructions on how to enter the system programming mode.

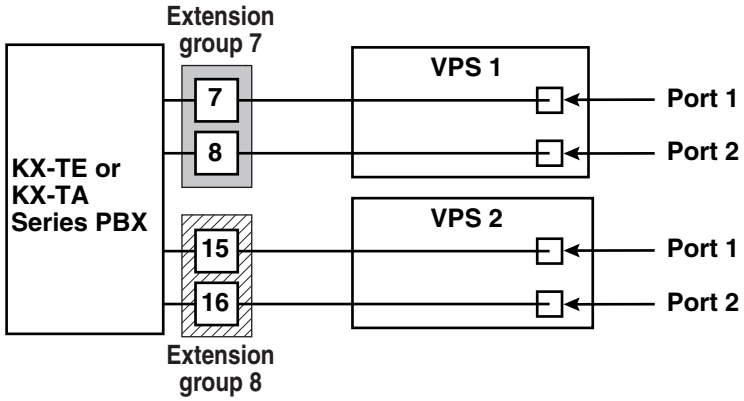
1. Using the Manager Extension, check the software version of the KX-TA series PBX using System Program [998].
   Example: **Y581J000421**(XX)
   The underlined digits represent the software production date code (year, month, day). For APT Integration, the production date must be 000421 or later.

   If the software version of the PBX is lower than this, consult your dealer.

   *From the **SYS-PGM NO ?** screen:*

   a) Enter **[998]**.

   b) **Press** the **NEXT** button (SP-PHONE). The PBX displays the ROM version and the date it was created.
2. Set the date and time using System Program **[000]**.
   Date and time are automatically synchronised between the VPS and the PBX during Quick Setup.
3. Set extension numbering using System Program **[009]**.
4. Assign the voice mail port. This program tells the PBX which jacks will be connected to the VPS. This allows the PBX to send the proper APT Integration information to those ports. Jack 07, or jacks 07 and 08 can be assigned for the VPS1 as the **voice mail port**. Jack 15, or jacks 15 and 16 can be assigned for the VPS2.



*From the **SYS-PGM NO ?** screen:*

a) Enter **[130]** (for VPS1) or **[131]** (for VPS2).

b) **Press** the **NEXT** button (SP-PHONE).
Screen output: Disable

c) **Press** the **SELECT** button (AUTO-ANSWER).
Screen output: Port 7 or Port 15

d) To assign 2 jacks, **press** the **SELECT** button (AUTO-ANSWER) again.
Screen output: Port 7 & 8 or Port 15 & 16
To assign 1 jack, skip this step.

e) **Press** the **STORE** button.

f) **Press END** (HOLD).

Conditions: ***The lowest jack (jack 07 or jack 15) entered here must be connected to Port 1 of the VPS.***

To change the current assignment from "Port 7" to "Port 7 & 8", you must first change it to "Disable". Likewise, if you want to change it from "Port 7 & 8" to "Port 7", you must first change it to "Disable". If the current assignment is already "Disable", you can make a change in 1 step. This condition also applies to System Program [131].

When "Port 7 & 8" is selected in program [130], extension jack numbers 07 and 08 will be in extension group 7 automatically. Likewise, when "Port 15 & 16" is selected in program [131], extension jack numbers 15 and 16 will be in extension group 8 automatically. Also the Extension Hunting type is set as "Circular" automatically in each of these 2 extension groups.

5. Select the appropriate trunk feature settings depending on how your customer plans to use the VPS: a) to answer all incoming calls, b) as an operator backup, or c) to only answer calls not answered by user extensions.
Recommended trunk feature settings:

a) If the VPS is answering all incoming calls:

Trunk Mode —Use System Programs **[414]** (Day Mode), **[415]** (Night Mode), **[416]** (Lunch Mode) to each trunk to "DIL" mode, and assign the first extension of the Voice

Mail hunt group as the destination for calls received on each trunk. The PBX will allow incoming trunk calls to hunt only if the trunks are DIL to the first port of the hunt group. Lines programmed as "Normal" do not hunt.

b) If the VPS is only answering calls not answered by the operator (Operator Backup):

Flexible Ringing Assignment —For each trunk, use System Programs **[408]** (Day mode), **[409]** (Night Mode), and **[410]** (Lunch Mode) to enable ringing at the operator's extension (jack).

Delayed Ringing Assignment —To give the operator time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Use System Programs **[411]** (Day Mode), **[412]** (Night Mode), and **[413]** (Lunch Mode).

Trunk Mode —Set the mode for each trunk to "Normal". Use System Programs **[414]** (Day Mode), **[415]** (Night Mode), and **[416]** (Lunch Mode) to set this parameter.

c) If the VPS is only answering calls not answered by user extensions:

Flexible Ringing Assignment —For each trunk, use System Programs **[408]** (Day Mode), **[409]** (Night Mode), and **[410]** (Lunch Mode) to enable ringing on every extension (jack) that you want to have ring.

Delayed Ringing Assignment —To give users time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Use System Programs **[411]** (Day Mode), **[412]** (Night Mode), and **[413]** (Lunch Mode).

Trunk Mode —Set the mode for each trunk to Normal. Use System Programs **[414]** (Day Mode), **[415]** (Night Mode), and **[416]** (Lunch Mode) to set this parameter.

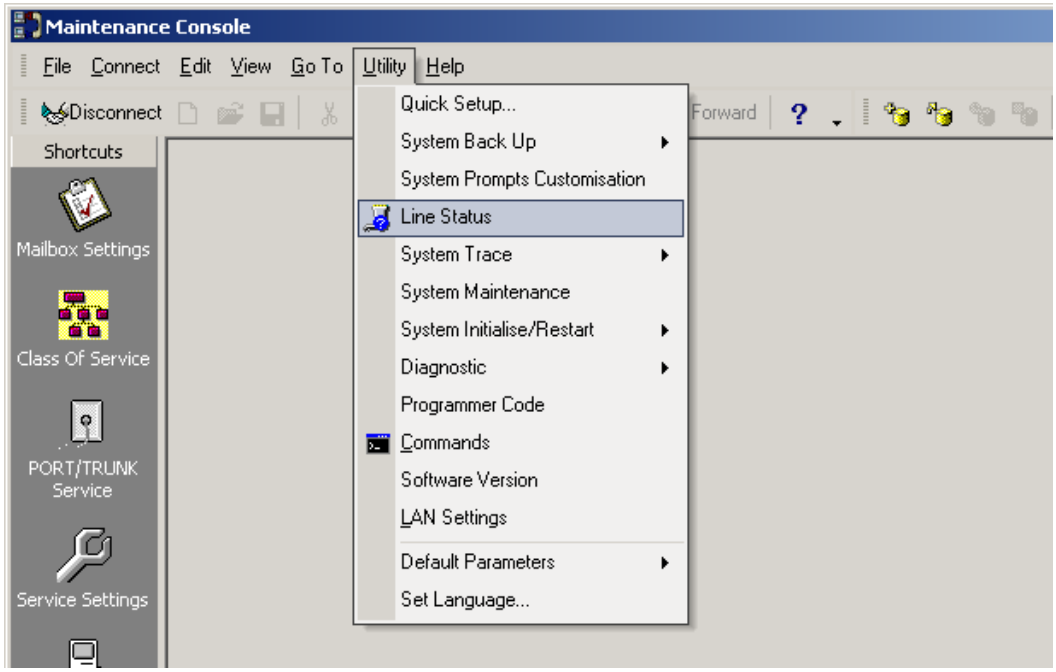
6. Connect the jack(s) assigned in Step 3 to the VPS.

7. Complete the PBX-VPS connection by following from step 1 of 4.8 Completing the PBX-VPS Connection.

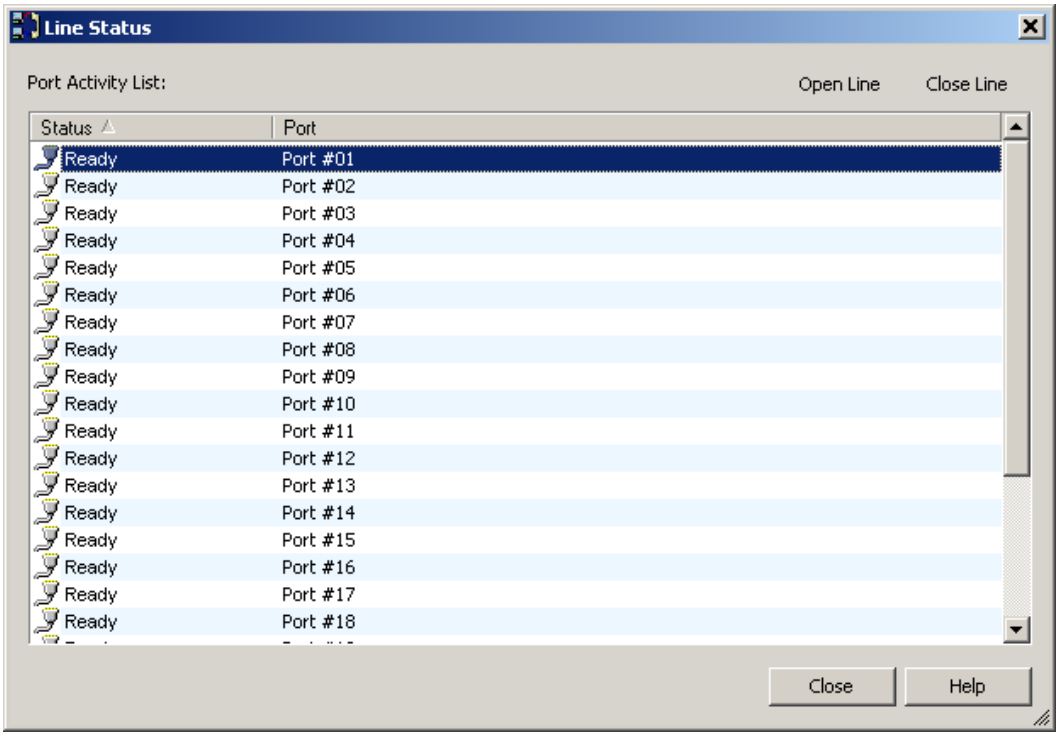
4.8 Completing the PBX-VPS Connection

Once you have finished installing all optional cards, connecting all telephones to the PBX, and configuring the PBX for APT/DPT Integration, proceed with the following steps to complete and test the PBX-VPS connection.

1. Start KX-TVM Maintenance Console (see 3.2 KX-TVM Maintenance Console Installation).
2. Using KX-TVM Maintenance Console, initialise the PBX (see 7.1 Initialising the VPS).
3. Start the Quick Setup utility and proceed with Quick Setup (see 6.1.2 Quick Setup).
4. Click "Utility" on the menu bar.
5. Select "Line Status".



6. Make sure each line connecting the PBX and VPS is shown as being "Ready".



Note

- If the correct lines are not online, make sure the correct PBX type is selected, that the PBX is properly programmed for APT/DPT Integration, and that the PBX and VPS are connected by 4-conductor cables.

7. To test the connection, dial the extension number of the VPS from a telephone connected to the PBX. If the VPS answers, the APT/DPT connection has been established.
8. You may now program APT/DPT Integration features according to the PBX being used. Refer to 4.3 KX-TDA Series Feature Programming for DPT Integration or 4.9 KX-TA, KX-TD, and KX-TE Series PBX Feature Programming for APT/DPT Integration.

CAUTION

Important information for KX-TE and KX-TA users:

When 2 VPSs are connected to a KX-TE or KX-TA series PBX, the following procedures should be performed to make the VPSs function correctly.

1. Delete a mailbox in either VPS so that each extension has only one mailbox (see 6.3.3 Deleting a Mailbox).

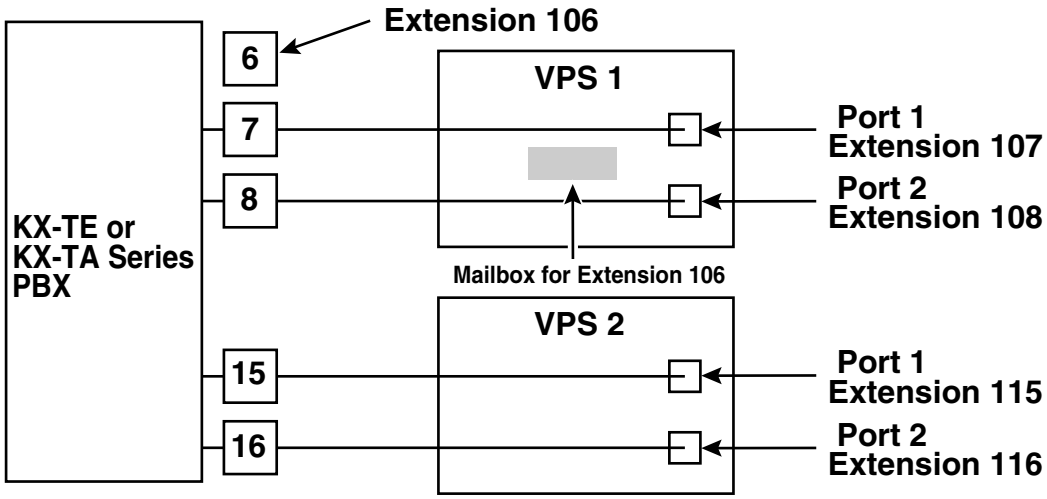
   After Quick Setup is complete, each extension has a mailbox in both VPS 1 and VPS 2, however, each extension should have only 1 mailbox.

2. Match extension settings with subscriber settings.

   For each subscriber's extension, make sure that the destination for Call Forwarding and Voice Mail Transfer is the extension number of the VPS that contains the subscriber's mailbox.

   For example (see diagram below), if jack 06 (extension 106) has its mailbox in VPS 1, assign extension 107 or 108 as the destination, not extension 115 or 116.

3. Make sure that the extension numbers of VPS 1 are 107 and 108, and the extension numbers of VPS 2 are 115 and 116.


Extension 106
6
VPS 1
7
Port 1
Extension 107
8
Port 2
Extension 108
KX-TE or
KX-TA Series
PBX
Mailbox for Extension 106
VPS 2
15
Port 1
Extension 115
16
Port 2
Extension 116

4.9 KX-TA, KX-TD, and KX-TE Series PBX Feature Programming for APT/DPT Integration

The following VPS features are functional on any KX-T7xxx proprietary telephone that is connected to the PBX.

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

Note for KX-TES824/TEM824 users:
PBX software version 1.0.38 or later is required for APT Integration. Consult your dealer for more information.
The following users may need to verify the PBX software version. See 4.5.1 KX-TD Series PBX Programming via the Manager's Extension.
Note for KX-TD1232/KX-TD816 NZ users:
If the PBX software production date is "91213" or later, follow the procedure described below for CE models.
Note for KX-TD1232RU users:
If the PBX software production date is "90520" or later, follow the procedure described below for CE models.
Note for KX-TD816RU users:
If the PBX software production date is "90526" or later, follow the procedure described below for CE models.

4.9.1 Live Call Screening (LCS) Programming

LCS notifies subscribers when messages are being recorded in their mailboxes. 2 notification methods are available: hands-free or private. Hands-free allows the user to monitor the message as it is being recorded through the speakerphone and, if desired, intercept the call by lifting the handset. Private mode notifies the user (by sounding a tone) when a message is being recorded. By pressing the LCS button, the user can monitor the message and intercept the call by going off-hook. System Programming also determines whether the VPS continues to record after the user intercepts the call.

4.9.2 Live Call Screening Password Assignment

To allow the Live Call Screening feature to work at an extension, the extension must have the LCS button lit. To light this button, press the LCS button, then enter the password. This password prevents others from activating the LCS feature and listening to the messages as they are being recorded. (It is not necessary to enter PITS Programming to activate this feature.)
PC programming is also available for KX-TD500 and KX-TE users (see 4.9.6 Live Call Screening Assignment via PC Programming).

1. **Lift** the handset or **press** the **SP-PHONE** button.
2. Enter the feature number.
   KX-TD: [799]
   KX-TE and KX-TA: [77✳]
3. **Enter** a 3-digit password (**[000]-[999]**) 2 times. KX-TE and KX-TA users must then enter [#]. You will hear a confirmation tone, then a dial tone.
   Screen output: The 3-digit password you entered is displayed.

4. **Hang up** or **press** the **SP-PHONE** button.
5. Repeat these steps for each telephone.

4.9.3 Live Call Screening Password Cancelling

To cancel the password, follow the procedure below. (It is not necessary to enter PITS Programming to activate this feature).
PC programming is also available for KX-TD500 and KX-TE users (see 4.9.6 Live Call Screening Assignment via PC Programming).

1. **Lift** the handset or **press** the **SP-PHONE** button.
2. Enter the feature number.
   KX-TD: [799]
   KX-TE and KX-TA: [77✳]
3. **Enter** the password (**[000]**-**[999]**). KX-TE and KX-TA users must then enter #.
   You will hear a confirmation tone, then a dial tone.
   Screen output: Password Cancel
4. **Hang up** or **press** the **SP-PHONE** button.
5. Repeat these steps for each telephone.

4.9.4 Live Call Screening Recording Mode Assignment

This program allows the VPS to continue recording the conversation in the mailbox after the extension intercepts the call during the Live Call Screening.
PC programming is available for KX-TD500 and KX-TE users (see 4.9.6 Live Call Screening Assignment via PC Programming).

1. Enter system programming, then enter the programming number.
   KX-TD500: Programmable through PC Programming only.
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [617]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [616]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [610]
   KX-TDN1232, KX-TD88 CN: [610]
   KX-TD612: [617]
   KX-TE and KX-TA: [620]
2. **Press** the **NEXT** button (SP-PHONE).
   Screen output: Jack No.? ⟶
3. **Enter** the **jack number**.
   Screen output: # _ _ :Stop Rec
   (_ _ = the jack number you entered)
4. **Press** the **SELECT** button (AUTO-ANSWER) until the desired selection is displayed.
5. **Press** the **STORE** button.
6. **Press** the **NEXT** button (SP-PHONE).
7. Repeat the steps 4 to 6 until all jacks are programmed.

4.9.5 Live Call Screening Private/Hands-Free Mode Assignment

This program assigns a VPS response for when a message is being left in a mailbox. It determines whether an alert tone is sent or whether the recorded message is played through the built-in speaker of the extension. The default mode is hands-free. (This item should be programmed by each extension user through Personal Programming.)
PC programming is also available for KX-TD500 and KX-TE users (see 4.9.6 Live Call Screening Assignment via PC Programming).

1. Enter Personal Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. Enter the code that corresponds to the mode you want this telephone to have.

   For Hands-free mode:
   KX-TD500: [71]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [✳11]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [✳11]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [71]
   KX-TDN1232, KX-TD88 CN: [71]
   KX-TD612: [✳11]
   KX-TE and KX-TA: [#11]

   For Private mode:
   KX-TD500: [72]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [✳12]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [✳12]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [72]
   KX-TDN1232, KX-TD88 CN: [72]
   KX-TD612: [✳12]
   KX-TE and KX-TA: [#12]
   Screen output: Hands-Free or Private
3. **Press** the **STORE** button.
4. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
5. Repeat these steps for each telephone.

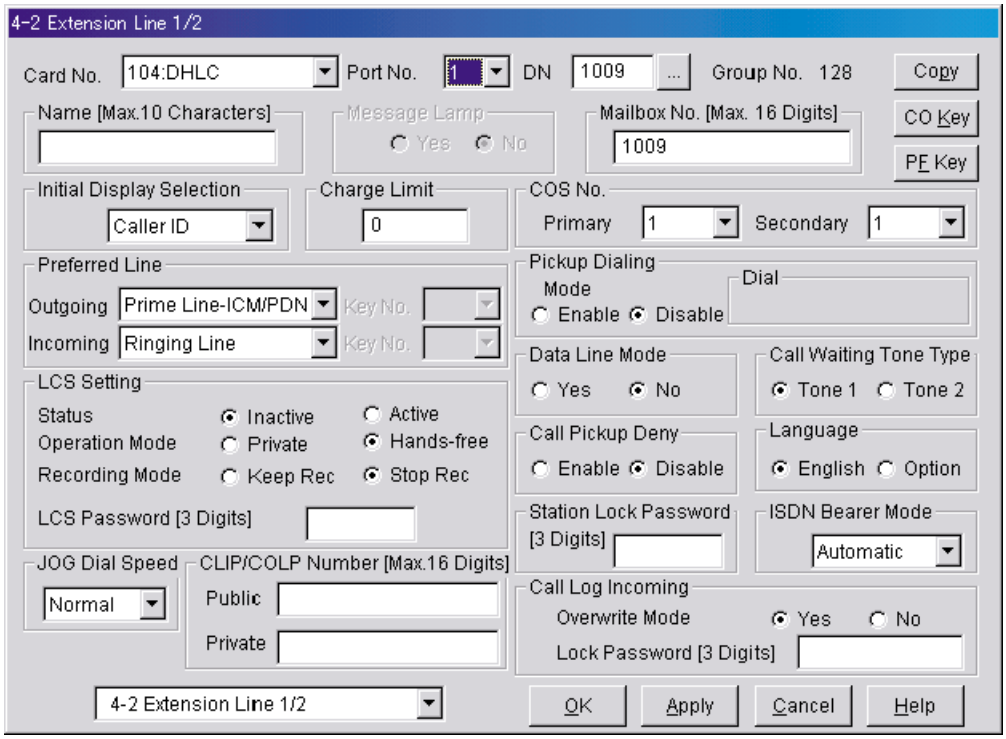
A single line telephone that is connected to the same extension as a proprietary telephone can also be used to monitor an incoming message (not available for KX-TE and KX-TA). Be sure that Live Call Screening on the connected proprietary telephone has been activated. This feature is useful when you are using a cordless telephone. A tone sounds to alert the subscriber that a message is being recorded. To intercept the call, flash the hook.

4.9.6 Live Call Screening Assignment via PC Programming

KX-TD500 and KX-TE users can program Live Call Screening features via PC programming. Follow the procedure below to assign each feature.

KX-TD500

1. **Go** to **"4-2 Extension Line"** screen.



2. **Select** the **"Card No."** and **"Port No."** which you are going to program.
3. In "LCS Settings":
   a) To set LCS Password, **Enter** a 3-digit number (using **"0-9"**) in "LCS Password".

   Note

   - To cancel the password, erase the 3-digit number

   b) To assign LCS Recording Mode, **Set** "Recording Mode" to **"Keep Rec"** or **"Stop Rec".**

   c) To assign LCS Private/Hands-free Mode, **Set** "Operation Mode" to **"Private"** or **"Hands-free".**

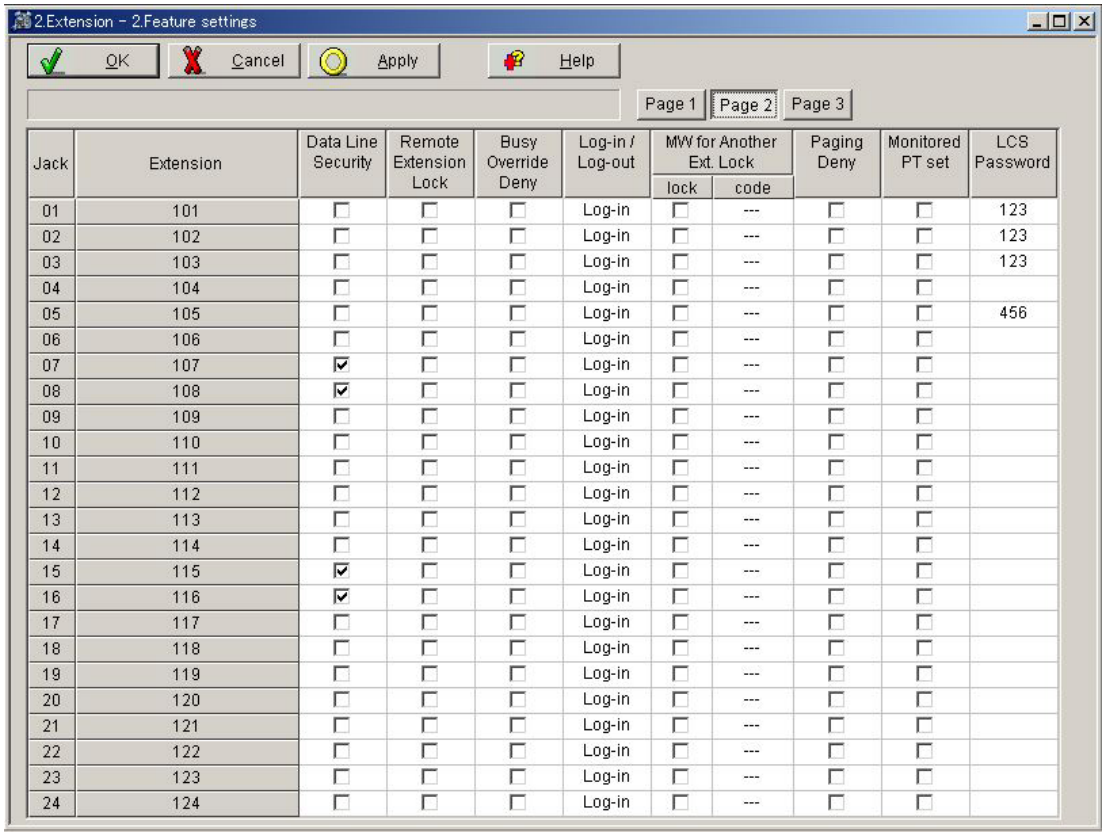
   d) To activate the LCS status, **Set** "Status" to **"Active".**

   Note

   - To utilise the Live Call Screening features, it is necessary to first assign the LCS Password and LCS Button (see 4.9.12 Button Assignment via PC Programming), and then activate the LCS status.
4. **Click "Apply".**
5. Repeat steps 2 to 4 for each extension.

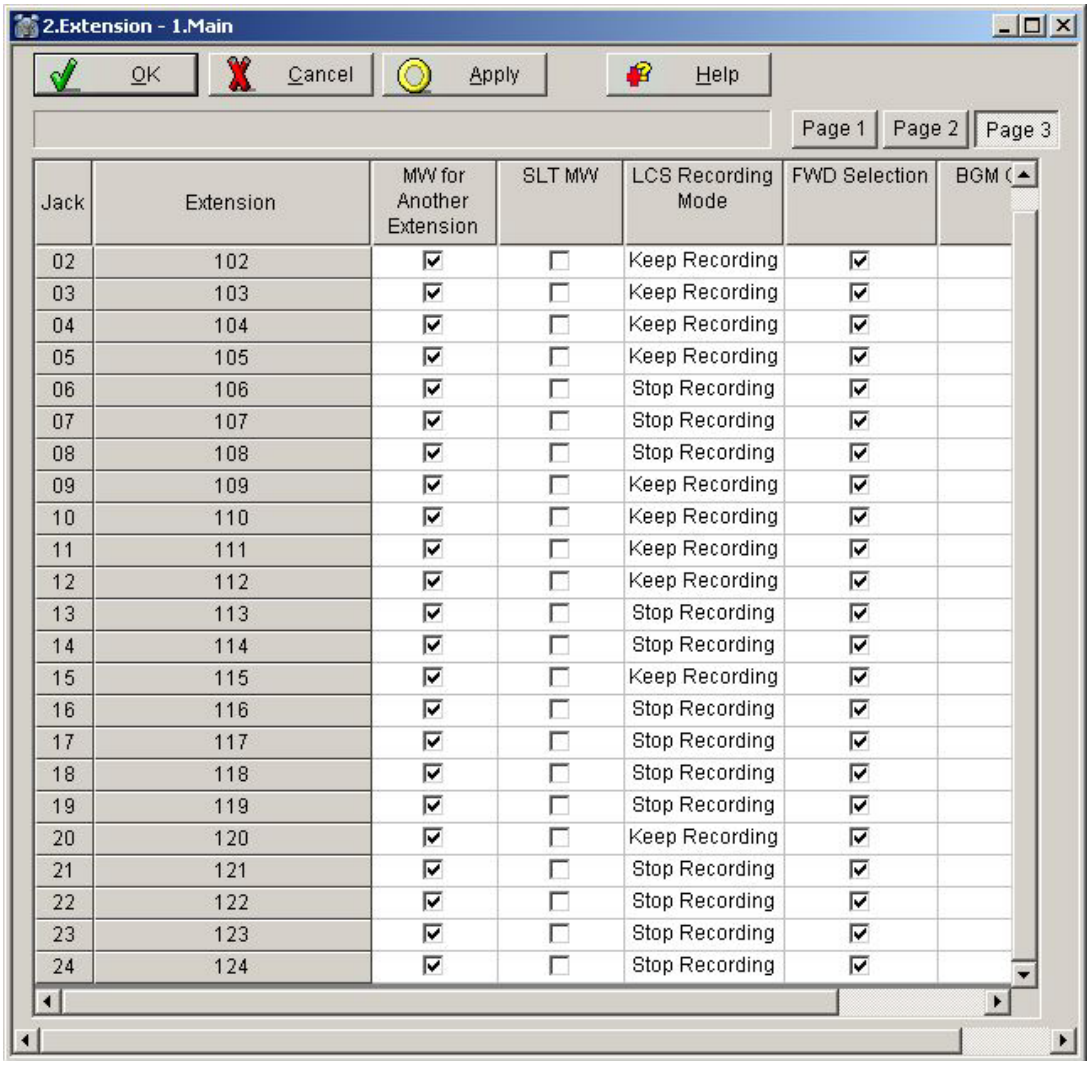
KX-TE Series

1. Go to "2.Extension - 2.Feature Settings".
2. Under "LCS Password":
   a) To set the LCS Password, enter a 3–digit number (using "0–9").
   b) To cancel the LCS Password, delete the 3–digit number.
   c) Click "Apply" to save the changed data.



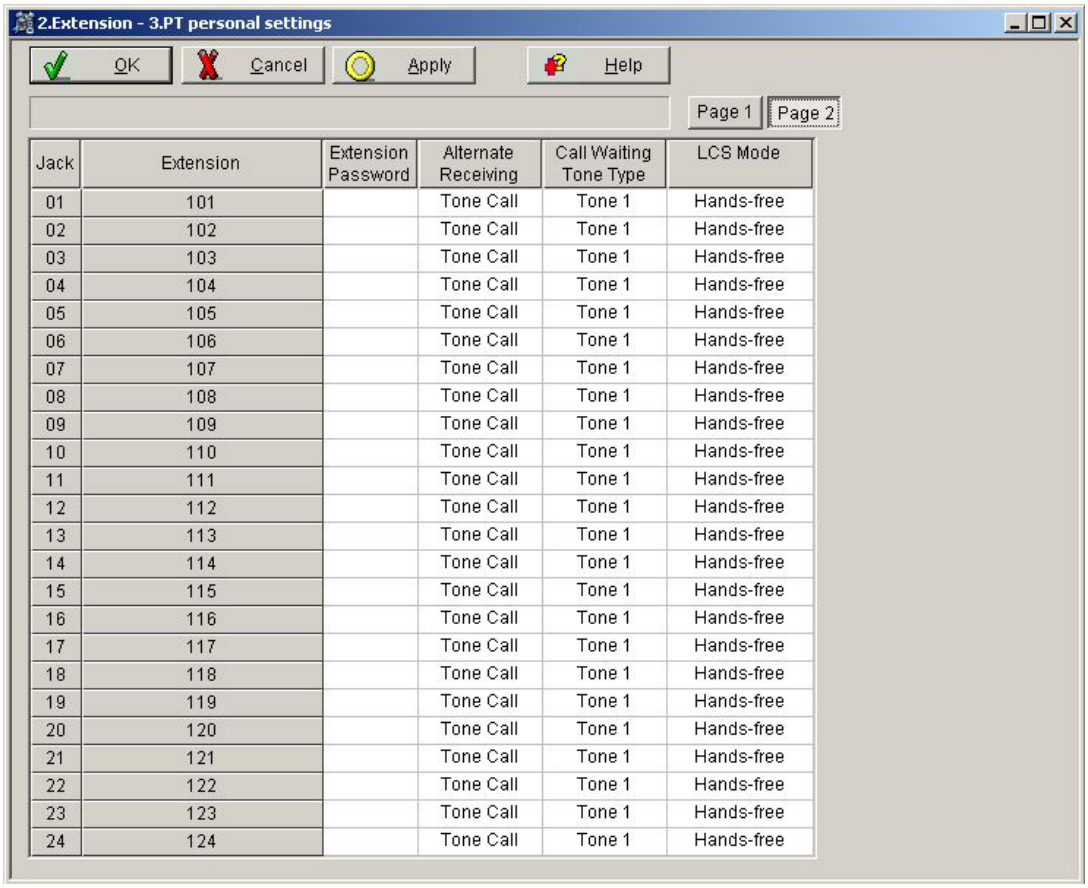
Jack	Extension	Data Line Security	Remote Extension Lock	Busy Override Deny	Log-in / Log-out	MW for Another Ext. Lock		Paging Deny	Monitored PT set	LCS Password
						lock	code			
01	101	☐	☐	☐	Log-in	☐	---	☐	☐	123
02	102	☐	☐	☐	Log-in	☐	---	☐	☐	123
03	103	☐	☐	☐	Log-in	☐	---	☐	☐	123
04	104	☐	☐	☐	Log-in	☐	---	☐	☐	
05	105	☐	☐	☐	Log-in	☐	---	☐	☐	456
06	106	☐	☐	☐	Log-in	☐	---	☐	☐	
07	107	☑	☐	☐	Log-in	☐	---	☐	☐	
08	108	☑	☐	☐	Log-in	☐	---	☐	☐	
09	109	☐	☐	☐	Log-in	☐	---	☐	☐	
10	110	☐	☐	☐	Log-in	☐	---	☐	☐	
11	111	☐	☐	☐	Log-in	☐	---	☐	☐	
12	112	☐	☐	☐	Log-in	☐	---	☐	☐	
13	113	☐	☐	☐	Log-in	☐	---	☐	☐	
14	114	☐	☐	☐	Log-in	☐	---	☐	☐	
15	115	☑	☐	☐	Log-in	☐	---	☐	☐	
16	116	☑	☐	☐	Log-in	☐	---	☐	☐	
17	117	☐	☐	☐	Log-in	☐	---	☐	☐	
18	118	☐	☐	☐	Log-in	☐	---	☐	☐	
19	119	☐	☐	☐	Log-in	☐	---	☐	☐	
20	120	☐	☐	☐	Log-in	☐	---	☐	☐	
21	121	☐	☐	☐	Log-in	☐	---	☐	☐	
22	122	☐	☐	☐	Log-in	☐	---	☐	☐	
23	123	☐	☐	☐	Log-in	☐	---	☐	☐	
24	124	☐	☐	☐	Log-in	☐	---	☐	☐	

3. Go to "2.Extension - 1.Main".
4. Under "LCS Recording Mode", select "Stop Recording" or "Keep Recording".
5. Click "Apply" to save the changed data.



Jack	Extension	MW for Another Extension	SLT MW	LCS Recording Mode	FWD Selection	BGM
02	102	☑	☐	Keep Recording	☑	
03	103	☑	☐	Keep Recording	☑	
04	104	☑	☐	Keep Recording	☑	
05	105	☑	☐	Keep Recording	☑	
06	106	☑	☐	Stop Recording	☑	
07	107	☑	☐	Stop Recording	☑	
08	108	☑	☐	Stop Recording	☑	
09	109	☑	☐	Keep Recording	☑	
10	110	☑	☐	Keep Recording	☑	
11	111	☑	☐	Keep Recording	☑	
12	112	☑	☐	Keep Recording	☑	
13	113	☑	☐	Stop Recording	☑	
14	114	☑	☐	Stop Recording	☑	
15	115	☑	☐	Keep Recording	☑	
16	116	☑	☐	Stop Recording	☑	
17	117	☑	☐	Stop Recording	☑	
18	118	☑	☐	Stop Recording	☑	
19	119	☑	☐	Stop Recording	☑	
20	120	☑	☐	Keep Recording	☑	
21	121	☑	☐	Stop Recording	☑	
22	122	☑	☐	Stop Recording	☑	
23	123	☑	☐	Stop Recording	☑	
24	124	☑	☐	Stop Recording	☑	

6. Go to "2.Extension - 3.PT personal settings".
7. Under "LCS Mode", select "Private" or "Hands-free".
8. Click "Apply" to save the changed data.



Jack	Extension	Extension Password	Alternate Receiving	Call Waiting Tone Type	LCS Mode
01	101		Tone Call	Tone 1	Hands-free
02	102		Tone Call	Tone 1	Hands-free
03	103		Tone Call	Tone 1	Hands-free
04	104		Tone Call	Tone 1	Hands-free
05	105		Tone Call	Tone 1	Hands-free
06	106		Tone Call	Tone 1	Hands-free
07	107		Tone Call	Tone 1	Hands-free
08	108		Tone Call	Tone 1	Hands-free
09	109		Tone Call	Tone 1	Hands-free
10	110		Tone Call	Tone 1	Hands-free
11	111		Tone Call	Tone 1	Hands-free
12	112		Tone Call	Tone 1	Hands-free
13	113		Tone Call	Tone 1	Hands-free
14	114		Tone Call	Tone 1	Hands-free
15	115		Tone Call	Tone 1	Hands-free
16	116		Tone Call	Tone 1	Hands-free
17	117		Tone Call	Tone 1	Hands-free
18	118		Tone Call	Tone 1	Hands-free
19	119		Tone Call	Tone 1	Hands-free
20	120		Tone Call	Tone 1	Hands-free
21	121		Tone Call	Tone 1	Hands-free
22	122		Tone Call	Tone 1	Hands-free
23	123		Tone Call	Tone 1	Hands-free
24	124		Tone Call	Tone 1	Hands-free

4.9.7 Live Call Screening Button Assignment

For the Live Call Screening feature to work at an extension, the extension must have an LCS button lit at the time of the message reception. This key must either be a DSS/BLF or CO key with a lamp. Follow the procedure below to assign an LCS button on an extension. (This item should be programmed by each extension user through Personal Programming.)
PC programming is also available for KX-TD500 and KX-TE users (see 4.9.12 Button Assignment via PC Programming).

1. Enter PITS Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. **Press** the desired **FLEXIBLE** (**CO** or **DSS/BLF**) button you want to assign as the LCS button.
3. Enter the programming number.
   KX-TD500: [92]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [85]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [85]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [92]
   KX-TDN1232, KX-TD88 CN: [92]
   KX-TD612: [85]
   KX-TE and KX-TA: [92]
   Screen output: LCS
4. **Press** the **STORE** button.
5. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
6. Repeat these steps for each telephone.

4.9.8 Live Call Screening Cancel Button Assignment

This button assignment allows you to assign a Flexible (CO, DSS) button as a Live Call Screening Cancel button.
PC programming is also available for KX-TD500 users (see 4.9.12 Button Assignment via PC Programming).

1. Enter PITS Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. **Press** the **Flexible (CO, DSS)** button that you wish to assign as a Live Call Screening Cancel button.
3. Enter the programming number.
   KX-TD500: [93]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [86]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [86]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [93]
   KX-TDN1232, KX-TD88 CN: [93]
   KX-TD612: [86]

KX-TE and KX-TA: [93]
Screen output: LCS Cancel

4. **Press** the **STORE** button. The STORE indicator lights.
   The display shows the initial programming mode.
5. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
6. Repeat these steps for each telephone.

The Live Call Screening Cancel Button Assignment is optional; Live Call Screening can also be cancelled by pressing the **FLASH** button.

4.9.9 Two-way Recording Button Assignment

For the Two-way Recording feature to work at an extension, the extension must have a TWR button on it. This key must either be a DSS/BLF or CO key with a lamp. Follow the procedure below to assign a TWR button on an extension. (This item should be programmed by each extension user through Personal Programming.)
PC programming is also available for KX-TD500 users (see 4.9.12 Button Assignment via PC Programming).

1. Enter PITS Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. **Press** the **Flexible** button (**CO** or **DSS/BLF**) that you want to assign as the TWR button.
3. Enter the programming number.
   KX-TD500: [90]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [83]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [83]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [90]
   KX-TDN1232, KX-TD88 CN: [90]
   KX-TD612: [83]
   KX-TE and KX-TA: [90]
   Screen output: 2Way-Rec:
4. **Dial** the **Voice Mail extension number**.
   Screen output: 2Way-Rec: _ _ _
   (_ _ _ = The extension number you entered).
5. **Press Store**.
6. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
7. Repeat these steps for each telephone.

Conditions: ***This button must be a CO or DSS/BLF key to be programmed as a TWR button. If this key is pressed when all Voice Mail ports are busy, the user will hear a reorder tone.***

4.9.10 Two-way Transfer Button Assignment

For the Two-way Transfer feature to work at an extension, the extension must have a TWT button on it. This key must either be a DSS/BLF or CO key with a lamp. Follow the procedure below to assign a TWT button on an extension. (This item should be programmed by each extension user through Personal Programming.)
PC programming is also available for KX-TD500 users (see 4.9.12 Button Assignment via PC Programming).

1. Enter PITS Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. **Press** the desired **FLEXIBLE (CO** or **DSS/BLF)** button that you want to assign as the TWT button.
3. Enter the programming number.
   KX-TD500: [91]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [84]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [84]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [91]
   KX-TDN1232, KX-TD88 CN: [91]
   KX-TD612: [84]
   KX-TE and KX-TA: [91]
   Screen output: 2Way-Trans:
4. **Dial** the **Voice Mail extension number**.
   Screen output: 2Way-Trans: _ _ _
   (_ _ _ = The extension number you entered).
5. **Press** the **STORE** button.
6. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
7. Repeat these steps for each telephone.

Conditions: ***This button must be a CO or DSS/BLF key to be programmed as a TWT button. When all Voice Mail ports are busy and this key is pressed followed by an extension number, the user will hear a warning tone.***

4.9.11 Voice Mail Transfer Button Assignment

This feature allows an extension user to transfer calls directly to a mailbox. This is available with both DPT and Inband Integration.
PC programming is also available for KX-TD500 users (see 4.9.12 Button Assignment via PC Programming).

1. Enter PITS Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. **Press** the desired **Flexible** (**CO** or **DSS/BLF**) button that you wish to assign as the VTR button.

3. Enter the programming number.
   KX-TD500: [8]
   KX-TD1232/KX-TD816 G, SL, NE, FR, E, AL: [82]
   KX-TD1232/KX-TD816 CE, JT, SA, NL, SP, NZ, RU, PD: [82]
   KX-TD1232/KX-TD816 C, BX, HK, X, X-BR, DBX, ML, BXDD: [8]
   KX-TDN1232, KX-TD88 CN: [8]
   KX-TD612: [82]
   KX-TE and KX-TA: [94]
   Screen output: VTR
4. **Dial** the **Voice Mail extension number**.
   Screen output: VTR- _ _ _
   (_ _ _ = The extension number you entered).
5. **Press** the **STORE** button.
6. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
7. Repeat these steps for each telephone.

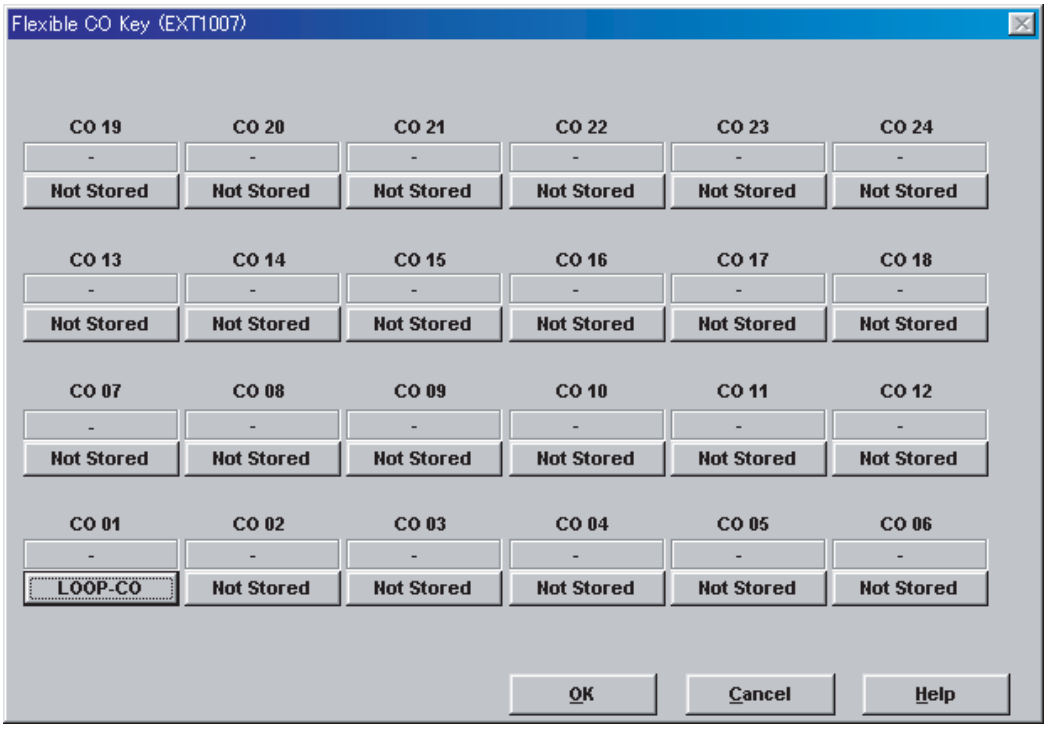
Conditions: ***This button must be a CO or DSS/BLF key to be programmed as a VTR button. When all Voice Mail ports are busy and this key is pressed followed by an extension number, the user will hear either a dial tone or a busy tone, depending on the Call Waiting on VM Group setting on the PBX.***

4.9.12 Button Assignment via PC Programming

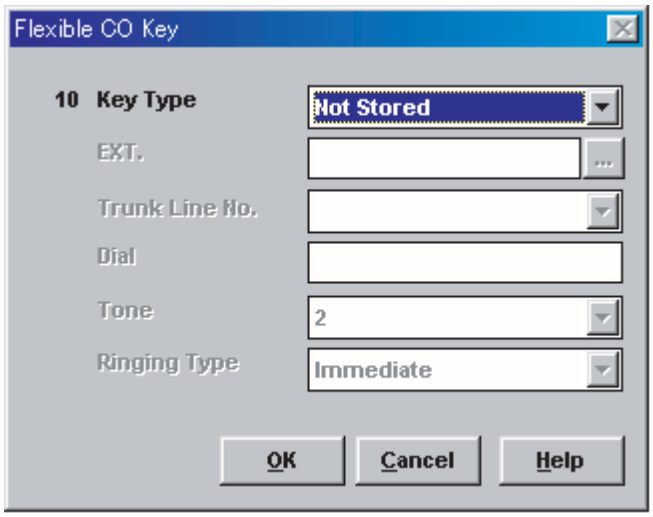
KX-TD500 and KX-TE users can assign buttons via PC programming. Follow the procedure below to assign each button.

KX-TD500

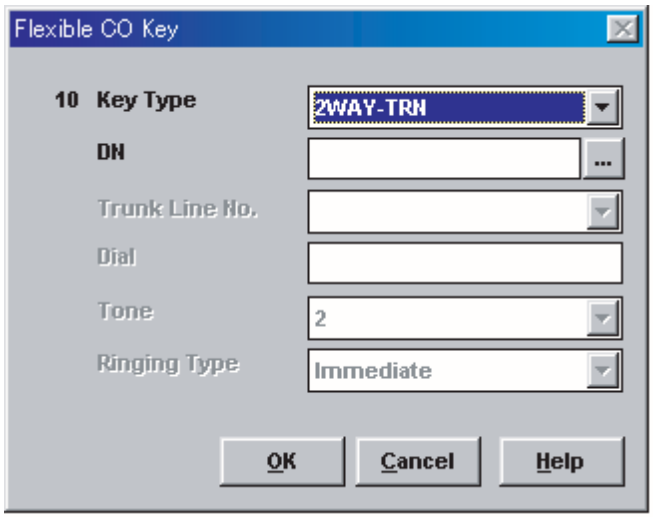
1. **Go** to **"4-2 Extension Line"** screen (refer to the screen image in 4.9.6 Live Call Screening Assignment via PC Programming).
2. **Select** the **"Card No."** and **"Port No."** which you are going to program.
3. **Click "CO Key"** in the upper right corner. "Flexible CO Key" screen (for all CO Keys) displays.



4. **Click** the **Key Number** to which a button will be assigned.
"Flexible CO Key" screen displays.



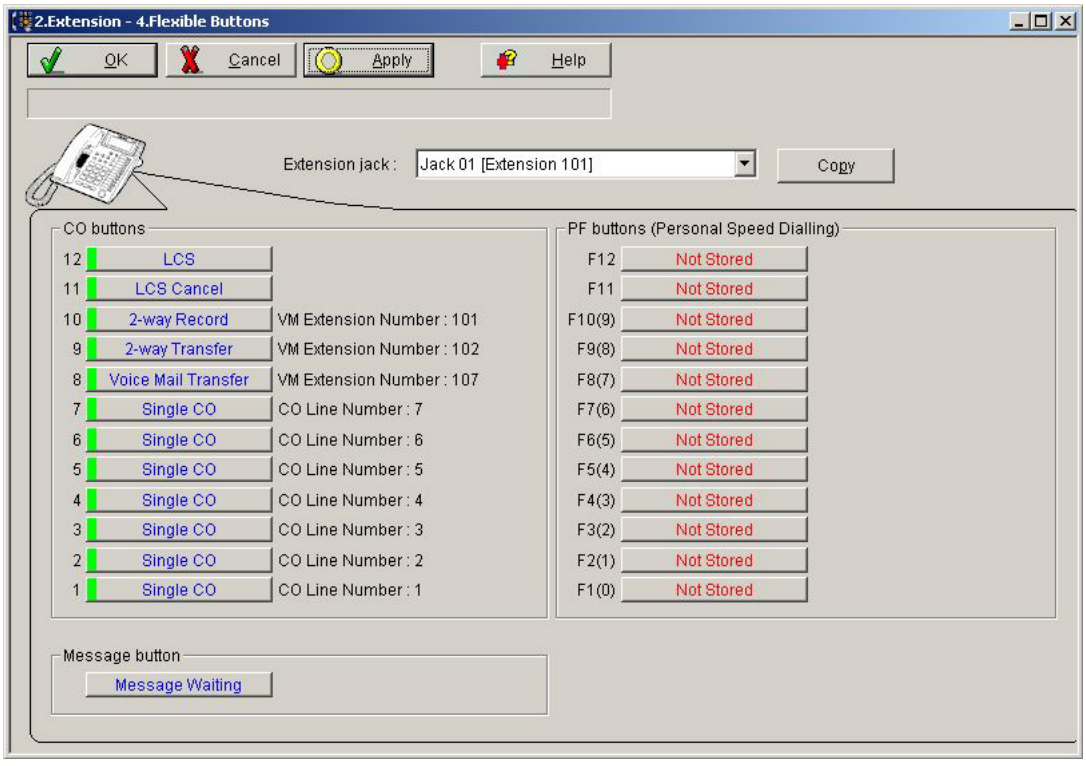
5. **Select** the desired **Key Type**. When 2WAY-REC, 2WAY-TRN, or VTR is selected, **enter** the **extension number** in "DN".



6. **Click "OK".** "Flexible CO Key" screen (for all CO Keys) displays again.
7. **Click "OK".** "4-2 Extension Line" screen displays again.
8. **Click "OK"** or **"Apply".**
9. Repeat these steps for each extension.

KX-TE Series

1. Go to "2.Extension - 4.Flexible Buttons".
2. Select the desired CO button.
   a) Select "Live Call Screening (LCS)" from the menu.
   b) Click "OK" to save the button.
3. Select the desired CO button.
   a) Select "LCS Cancel" from the menu.
   b) Click "OK" to save the button.
4. Select the desired CO button.
   a) Select "2-way Record" from the menu.
   b) Enter the extension number of the VPS.
   c) Click "OK" to save the button.
5. Select the desired CO button.
   a) Select "2-way Transfer" from the menu.
   b) Enter the extension number of the VPS.
   c) Click "OK" to save the button.
6. Select the desired CO button.
   a) Select "Voice Mail Transfer" from the menu.
   b) Enter the extension number of the VPS.
   c) Click "OK" to save the button.


2.Extension - 4.Flexible Buttons
OK
Cancel
Apply
Help
Extension jack :
Jack 01 [Extension 101]
Copy
CO buttons
12 LCS
11 LCS Cancel
10 2-way Record VM Extension Number : 101
9 2-way Transfer VM Extension Number : 102
8 Voice Mail Transfer VM Extension Number : 107
7 Single CO CO Line Number : 7
6 Single CO CO Line Number : 6
5 Single CO CO Line Number : 5
4 Single CO CO Line Number : 4
3 Single CO CO Line Number : 3
2 Single CO CO Line Number : 2
1 Single CO CO Line Number : 1
PF buttons (Personal Speed Dialling)
F12 Not Stored
F11 Not Stored
F10(9) Not Stored
F9(8) Not Stored
F8(7) Not Stored
F7(6) Not Stored
F6(5) Not Stored
F5(4) Not Stored
F4(3) Not Stored
F3(2) Not Stored
F2(1) Not Stored
F1(0) Not Stored
Message button
Message Waiting

4.9.13 Live Call Screening Activation

To activate the Live Call Screening status, follow the steps below.
PC programming is also available for KX-TD500 users (see 4.9.6 Live Call Screening Assignment via PC Programming).

1. **Press** the assigned **LCS Button**.
2. **Press** the assigned **LCS Password**.
3. Confirm that the assigned **LCS Button** is red-on.
4. Repeat these steps for each telephone.

Conditions: ***To activate the Live Call Screening features, it is necessary to light the LCS button after assigning the LCS password and LCS button.***

4.9.14 Live Call Screening Password Control

This feature allows operators and the Manager of the PBX to cancel the password for LCS at any extension. If a user forgets the preprogrammed password, Operator(s) and the Manager of the PBX can cancel the LCS password.

1. Enter PITS Programming:
   a. While on-hook, **press** the **PROGRAM** button or set the MEMORY switch to "PROGRAM".
   b. **Enter [99]**. (This step is not needed for KX-TE and KX-TA.) The display changes to PT-PGM Mode.
2. Enter the programming number.
   KX-TD: [03]
   KX-TE and KX-TA: [#2]
   Screen output: Ext NO?
3. **Dial** the desired **Extension Number**, or **press [✳]** to remove all passwords (not available for KX-TE and KX-TA).
4. **Press** the **STORE** button.
5. To exit the Personal Programming mode, **press** the **PROGRAM** button or set the MEMORY switch to "SET".
6. Repeat these steps for each telephone.

4.9.15 Two-way Recording into Mailbox

This feature allows extension users to record conversations into their mailboxes by pressing the Two-way Recording (TWR) button.

4.9.16 Two-way Transfer into Mailbox

This feature allows an extension user to record a conversation into another person's mailbox by pressing the Two-way Transfer (TWT) button and dialling the extension number. This is commonly

used by a person who is taking a detailed message for someone else and wants the message recorded in the mailbox at the same time.

4.9.17 A Restriction on TWR/TWT Activation (KX-TD500 Only)

The KX-TD500 supports a maximum of 8 simultaneous Two-way Recording or Two-way Transfer operations. If the KX-TD50104 TSW-CONF (TSW Conference Expansion) Card is installed, the KX-TD500 supports a maximum of 64 Two-way Recording or Two-way Transfer operations.

Section 5

Inband Integration with a Panasonic KX-T Series PBX (KX-TVM50 only)

This section explains how to configure Panasonic KX-T series PBXs to use Inband Integration with the VPS.

5.1 Guidelines for Inband Integration

5.1.1 What is Inband Integration?

In order for the VPS to function, it must be integrated with the PBX it serves. The type of integration that is used determines how voice (caller messages, VPS prompts, etc.) and data (extension status, button presses, etc.) are sent between the VPS and the PBX.

When the VPS and PBX use Inband Integration, voices are sent using analogue technology, and data is sent using analogue DTMF tones.

The PBX informs the VPS of the status of extensions by sending DTMF tones and Call Progress tones to the VPS. Similar to an extension user, the VPS places calls by going off-hook and dialling numbers. It starts call transfers with a hookswitch flash to put callers on hold and then dials the extension number, just like an extension user.

Signals Sent Between the PBX and VPS

PBX to VPS	VPS to PBX
Call Progress Tones • ringback • busy • reorder DTMF tones	SLT Signals • on/off hook • hookswitch flash DTMF tones

5.1.2 When to Use Inband Integration

The type of PBX and/or the type of extension cards installed in the PBX will determine whether Inband Integration should be used. Generally, if the VPS is connected to an APT/DPT Integration compatible Panasonic PBX, APT/DPT Integration—not Inband Integration—is the ideal integration method. See 1.1.7 Compatible PBXs for more information.

Note

- Certain VPS features are not available when using Inband Integration.
- Availability of VPS features depend on the PBX being used.

5.1.3 PBX Requirements for Inband Integration

The type of VPS, PBX, and PBX extension cards used will determine the availability of certain features. In order to use the features described in this section, you may need to test the PBX for compatibility or refer to the documentation included with the PBX.

Single Line (Tip/Ring) Port Circuits

The VPS can only be connected to PBX extension jacks that support standard single line telephones (SLTs). Some PBXs need an OPX card to provide this connection. ***However, some OPX cards do not provide all the capabilities listed in this section.***

Following are the minimum current and voltages that the PBX must supply:

Minimum Loop Current	20 mA
Minimum Line Voltage	7 V DC
Minimum Ringing Voltage	40 V AC

DTMF Signalling

For system users to access VPS services and features, they must be able to send DTMF signals from their telephones to the VPS port. As a general rule, most SLTs can send DTMF signals; however, many proprietary telephones cannot. Some PBXs need to be programmed to make proprietary telephones use DTMF signalling.

TEST: Call an SLT extension from the telephone in question. When the call is answered, see if the person receiving the call hears DTMF tones when numbers are dialled.

Message Waiting Notification on an SLT

When the Message-Waiting-Lamp-On code is dialled by the VPS, either the lamp on the corresponding extension should light or the extension should receive a stutter dial tone. The VPS functions best when the extension number of the mailbox subscriber follows the Light-On or Light-Off code. On some PBXs, however, the extension number is dialled first, followed by a hookswitch flash and then the On code. This presents a problem if the extension is answered before the VPS sends the hook-switch flash.

If the PBX does not provide Message Waiting Notification on an SLT, the VPS can only notify mailbox owners by dialling a beeper number or user-assigned extension.

This process slows down VPS performance as it dials the beeper or extension number and waits to confirm notification. The beeper or user-assigned extension notification is meant to be used for necessity, usually for mailbox owners who are often out of the office (e.g., sales people or field representatives). The only other option, without Message Waiting Notification is for mailbox owners to periodically call the VPS to check for messages.

TEST: See if dialling the On code from an SLT can turn on an extension's message waiting indicator.

Screened Transfer from an SLT

The PBX must provide a screened transfer from an SLT for the VPS to function properly.

A screened transfer:

1. *Puts the caller on hold, usually with a hookswitch flash.*
2. *Dials the extension.*

3. *Checks to see if the called subscriber is in, out, or on another line, and whether or not that subscriber accepts the transfer.*
4. *Completes the transfer (by going on-hook) or notifies the caller that the party is busy or not available. It then gives the caller an opportunity to leave a message.*

If the PBX does not provide screened transfer from an SLT, the VPS cannot give callers the option to leave a message in a subscriber's mailbox.

TEST: Place a trunk call from an SLT. See if you can set up a screened transfer to another extension. Next, try the same test with an intercom call. (The VPS may have to transfer both types of calls.)

Follow-on ID or Called Party ID

When forwarding or transferring a call to the VPS, a PBX with Follow-on ID sends the mailbox number of the called subscriber to the VPS before connecting the caller. The VPS responds by playing that subscriber's personal greeting. This operation is sometimes called Call Forward to Mailbox. Without this feature, the VPS cannot immediately play the called extension's greeting message when the line is busy or there is no answer because the VPS does not know which mailbox to send the caller to.

5.2 PBX Settings for Inband Integration

5.2.1 General Guidelines and Definitions

In order for the VPS and PBX to communicate properly, certain settings of both the VPS and PBX should be set to the same values.

Programming procedures and availability may vary by country/area. Consult your dealer for more information.

5.2.2 Global Parameters

Global parameters are hardware settings that affect integration with the PBX. There is no need to change these settings in a typical installation. Only change these parameters when connecting the VPS to a PBX other than a KX-T series PBX.
Each port on the VPS should match the type of signalling the PBX expects. If you need to change these settings for the VPS, refer to 2.6.1 Global Parameters in the Programming Manual, and refer also to the documentation included with the PBX.

- ***Flash/Recall Time***
  The minimum length of time that the PBX requires to recognise a hookswitch flash/recall. Choose the amount that is equal to or greater than the PBX's setting.
- ***CPC Signal (Calling Party Control Signal)***
  The length of time allowed for the short break in loop current that is used to indicate that the caller has hung up; usually set to NONE, since most PBXs do not provide this signal to single line ports. If choosing a setting other than NONE, use an amount equal to or less than the PBX or telephone company provided CPC signal.
- ***Disconnect Time***
  The length of time that the line is temporarily unavailable after a call has ended.
- ***Delay After Dialling Before Analysis***
  The length of time between the end of a call and the start of "Call Progress Tone" detection when an outgoing call is dialled.
- ***Maximum Time to Wait for Dial Tone***
  The length of time that the VPS must wait for dial tone detection.
- ***Dial Start Mode***
  Specifies whether to detect "Dial Tone" or wait the specified time in "Off-hook Delay" when an outgoing call is dialled.
- ***Off-hook Delay***
  The length of delay time when "Off-hook Delay" is selected in "Dial Start Mode".
- ***Delay After Dialling Before On-hook***
  The length of time that the VPS waits for an answer when an outgoing call is dialled. If the time period expires with no answer, the VPS disconnects the call.
- ***Record Start Beep Tone - Frequency, Amplitude, Duration***
  Specifies the characteristics of the "Beep Tone" heard before a caller's message is recorded.
- ***DTMF Cut Length***
  The length of time for DTMF to be deleted when it is detected while in recording.
- ***Minimum Message Length***
  Specifies the minimum message recording length. Messages shorter than the specified minimum recording length are discarded from the mailbox.

- ***Call Progress Tone Detection for Inband Mode***
  Specifies whether to detect "Call Progress Tone".

5.2.3 PBX Interface Parameters

The following items can be programmed using KX-TVM Maintenance Console under "System Parameters" by selecting the "Parameters" tab.

PBX Environment

- ***PBX Type***
  Specifies the type of PBX which is connected to the VPS.
- ***Integration Mode***
  Select "Inband". If PBX type is set to the Panasonic KX-T series, the Inband Signalling parameters are set automatically and should not be altered.

SEQUENCE CODES

D	Disconnect
F	Hookswitch Flash
R	Ring Detection
T	Dial Tone Detection
X	Dial Extension
,	Dialling Pause (default 1 s)
;	Dialling Pause (default 3 s)
0-9, ✳, #	DTMF Tones

- ***Maximum Extension Number Length***
  Specifies the maximum number of digits that the connected PBX recognises as an extension number.
- ***Extension Number of VPS Port***
  Specifies the extension number for each VPS port on the connected PBX.

Note

- Extension numbers of the VPS ports will automatically be assigned when the PBX type has been changed.

- ***Operator Transfer Sequence***
  Tells the VPS how to transfer a call to the operator.
  Example: FTX [hookswitch flash→dial tone→dial (operator) extn.]
- ***Extension Transfer Sequence***
  Tells the VPS how to transfer a call to an extension.
  Example: FTX [hookswitch flash→dial tone→dial extn.]
- ***Alternate Extension Transfer Sequence***
  Tells the VPS how to transfer a call to an extension that belongs to the "Alternate Extension Group". This is useful for extensions that need a special transfer procedure (i.e., blind transfer)

such as modem extensions.
Example: FTXD [hookswitch flash→dial tone→dial extn.→hang up]

- ***Reconnect Sequence on Busy***
  Tells the VPS how to return to the caller if the called extension is busy. PBXs differ in how they handle this function. Test from an SLT to determine the sequence.
- ***Reconnect Sequence on No Answer***
  Tells the VPS how to return to the caller if the called extension does not answer. PBXs differ in how they handle this function. Test from an SLT to determine the sequence.
- ***Reconnect Sequence on Refused Call***
  Tells the VPS how to return to the caller if the called extension's owner has enabled Call Screening to not take the call. PBXs differ in how they handle this function. Test from an SLT to determine the sequence.
- ***Light-On Sequence for Message Waiting Lamp***
  This is the dialling sequence that the VPS must use to turn on a message waiting lamp at an extension.
- ***Light-Off Sequence for Message Waiting Lamp***
  This is the dialling sequence that the VPS must use to turn off a message waiting lamp at an extension.
- ***Message Waiting Lamp Retry Time***
  Specifies the number of times to retry the Message Waiting Lamp light-on/light-off process. This parameter is enabled only when the integration mode is Inband Integration or No Integration.
- ***Message Waiting Lamp Interval Time***
  Specifies the time between retries for the Message Waiting Lamp light-on/light-off process. This parameter is enabled only when the integration mode is Inband Integration or No Integration.
- ***Call Waiting Sequence***
  This sequence is carried out by the VPS to perform call waiting when the called extension is busy. PBXs differ in how they handle this function. Test from an SLT to determine the sequence.
- ***Release Sequence for Call Waiting***
  This sequence is carried out by the VPS to release call waiting. PBXs differ in how they handle this function. Test from an SLT to determine the sequence.

Inband Signalling

These parameters are used when the Integration Mode is set to Inband. If the PBX type is set to a KX-T series system, these parameters will be automatically set. If another type of PBX is used, check the system's Installation Manual for settings.

Code (default)	Call State	Sent to the Voice Mail Port When...
1	Ringback Tone	The extension dialled is ringing.
2	Busy Tone	The extension dialled is busy.
3	Reorder Tone	An invalid extension number is dialled or the call is inadvertently connected to another Voice Mail port (also heard when no DTMF receiver is available to the Voice Mail extension).
4	DND	The extension dialled has set the Do Not Disturb feature (DND).
5	Answer	The extension dialled is answered.
6	Forwarded to Voice Mail (Ringing)	The extension dialled is forwarded to Voice Mail and another Voice Mail port is able to answer. (This lets the first Voice Mail port, usually an Auto Attendant, send the call to the other Voice Mail port.)
7	Forwarded to Voice Mail (Busy)	The extension dialled is forwarded to Voice Mail and no other Voice Mail ports are available to accept the call. (This signals the Voice Mail port, usually Auto Attendant, to let the caller leave a message.)
8	Forwarded to Extn.	The extension dialled is forwarded to another non-Voice Mail extension.
9	Confirmation Tone	The Message Waiting Lamp On or Message Waiting Lamp Off code is dialled successfully.
#9	Disconnect	The caller disconnects. The telephone company must set a CPC signal to the PBX line for this signal to work for trunk calls.

Digit Translation Table Parameters

These parameters allow PBXs that have a fixed Follow-on ID sequence to be used with the VPS. For example, a Follow-on ID sequence of [✳✳✳1001] can be changed to [#61001] by using these parameters.

- ***Inter-Digit Time-out***
  This parameter defines the interval of incoming signals (Follow-on ID) from the PBX to the VPS.
- ***Translation Table***
  When the system receives digits within the inter-digit time, it checks them against the input table. If they are found, the VPS translates the digits according to the table.

Transfer to Outside Parameters

These parameters specify how the VPS will transfer calls to trunks from the following services: Custom Service, Call Transfer Service, and Personal Custom Service.

[Outside Transfer Sequence]

- ***Call Transfer to Outside Sequence***
  Specifies the sequence the VPS uses to transfer calls to trunks.
- ***Call Transfer to Outside Reconnect Sequence on Busy***
  Specifies the sequence the VPS uses to reconnect the line when the transferred party is busy.
- ***Call Transfer to Outside Reconnect Sequence on No Answer***
  Specifies the sequence the VPS uses to reconnect the line when the transferred party does not answer.
- ***Outside Transfer Answer Mode***
  Specifies the answering method the VPS uses to recognise whether the destination party has answered the transferred trunk call.

Sequences for Voice Mail Integration

Use the KX-TVM Maintenance Console software to program the following sequences using the sequence codes listed here.

PBX Type	T308/ T616	T1232/TE Series/TA Series	T96	T336	TD612/ TD816/ TD1232/ TD308	TD500	TDA series	Other Manufacturers
Operator Transfer Sequence	FTX	FTX	FTX	FTX	FTX	FTX	FTX	FX
Extension Transfer Sequence	FTX	FTX	FTX	FTX	FTX	FTX	FTX	FX
Alternate Extension Transfer Sequence	FTX	FTX	FTX	FTX	FTX	FTX	FTX	FX
Reconnect Sequence on Busy	FWW	FWW	FWW	FWW	FWW	FWW	FWW	FWW
Reconnect Sequence on No Answer	FWW	FWW	FWW	FWW	FWW	FWW	FWW	FWW
Reconnect Sequence on Refuse Call	FWW	FWW	FWW	FWW	FWW	FWW	FWW	FWW
Light-On Sequence for Message Waiting Lamp	N/A	T701X#	T#91X	T✳9X	T701X	T701X	T✳701X	*
Light-Off Sequence for Message Waiting Lamp	N/A	T702X#	T#90X	T#9X	T700X	T700X	T✳700X	*
Call Waiting Sequence	N/A	2	N/A	N/A	1	1	1	*
Release Sequence for Call Waiting	N/A	F	N/A	N/A	F	F	F	*

* Check with manufacturer.
N/A Not Available

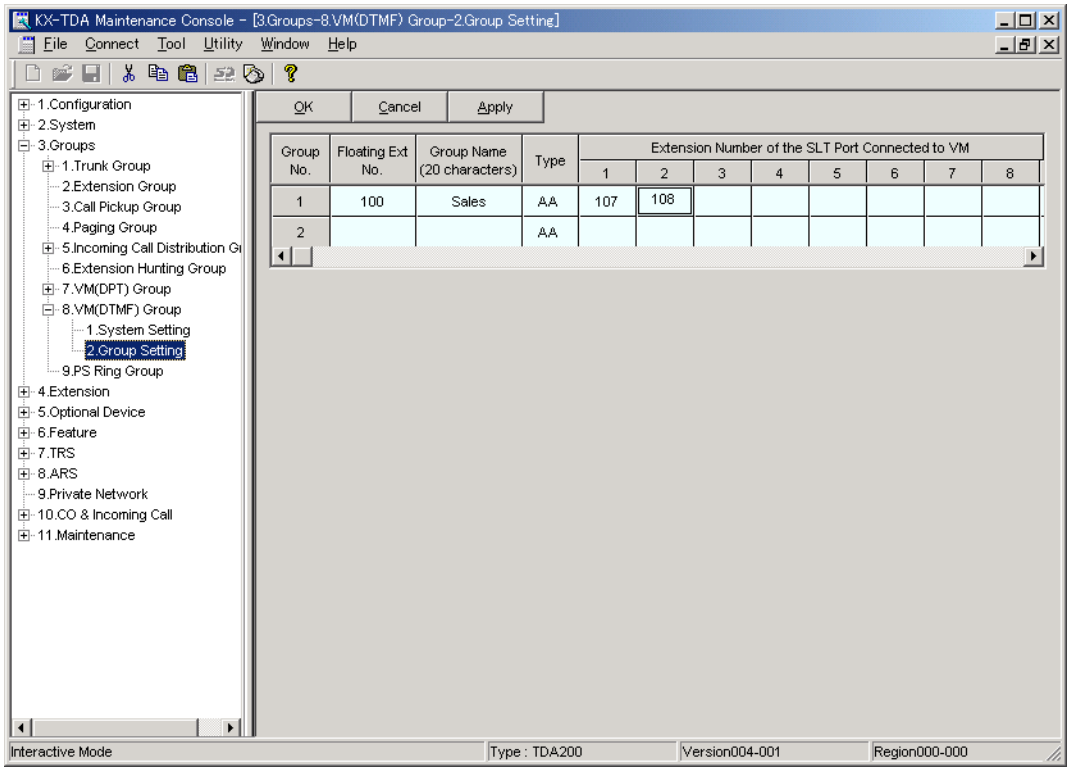
The remainder of this section consists of step-by-step guides for software verification and programming for select Panasonic PBX systems.

5.3 KX-TDA Series PBX Programming for Inband Integration

DPT Integration is recommended when using the VPS with a KX-TDA series PBX, however, Inband Integration is necessary when the PBX has available SLT ports but no available DPT ports.

The screen shots shown in this section are for the KX-TDA200. Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

1. Assignment of VM (DTMF) Group
   - **a)** **Go** to the "**Groups-VM(DTMF) Group-Group Setting**" screen.
   - **b)** **Assign** a floating extension number to the desired VM (DTMF) group.
   - **c)** **Select** AA as the service type.
   - **d)** **Assign** extension numbers to "**Extension Number of the SLT Port connected to VM**". Incoming calls will hunt starting at the lowest VM Port number.
   - **e)** **Click "Apply"** to save the changed data.



2. Settings for the trunk features

Select the appropriate trunk feature settings depending on how your customer plans to use the VPS.

- The VPS answers all incoming trunk calls promptly.
  Go to [Example Settings (1)].
- The VPS answers when the operator does not take the call after a specified time.
  Go to [Example Settings (2)].
- The VPS answers when an Incoming Call Distribution (ICD) group does not take the call after a specified time.
  Go to [Example Settings (3)].

[Example Settings (1)]

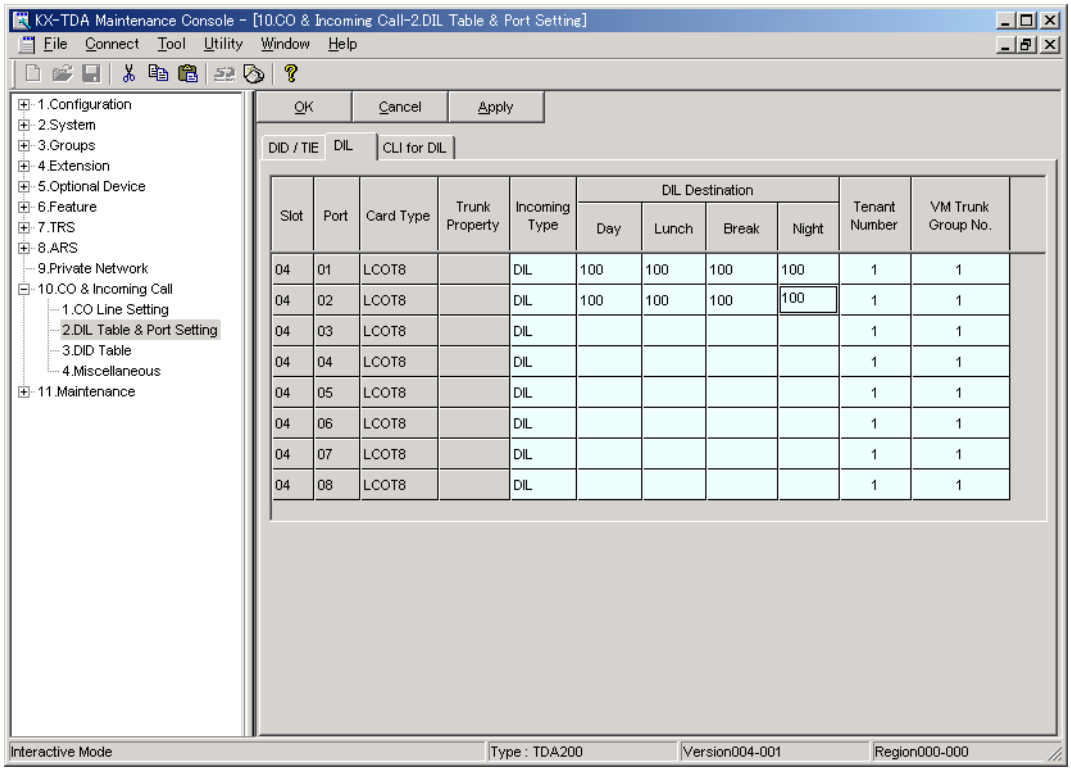
Program the PBX so that all trunk calls are directed to the VPS (DIL feature).

1) **Go** to the **"CO & Incoming Call-DIL Table & Port Setting"** screen.

2) **Assign "DIL Destination Day/Night/Lunch/Break"** for each trunk to a floating extension number (VPS Port).

3) **Click "Apply"** to save the changed data.

Calls received on the assigned trunks will be directed to the VPS. The VPS will answer those calls using the service (AA, VM, Custom Service, etc.) assigned to each VPS port through VPS programming.



Note

- The above screen output appears only when all the trunk cards mounted on your PBX are LCOT8 cards.

[Example Settings (2)]

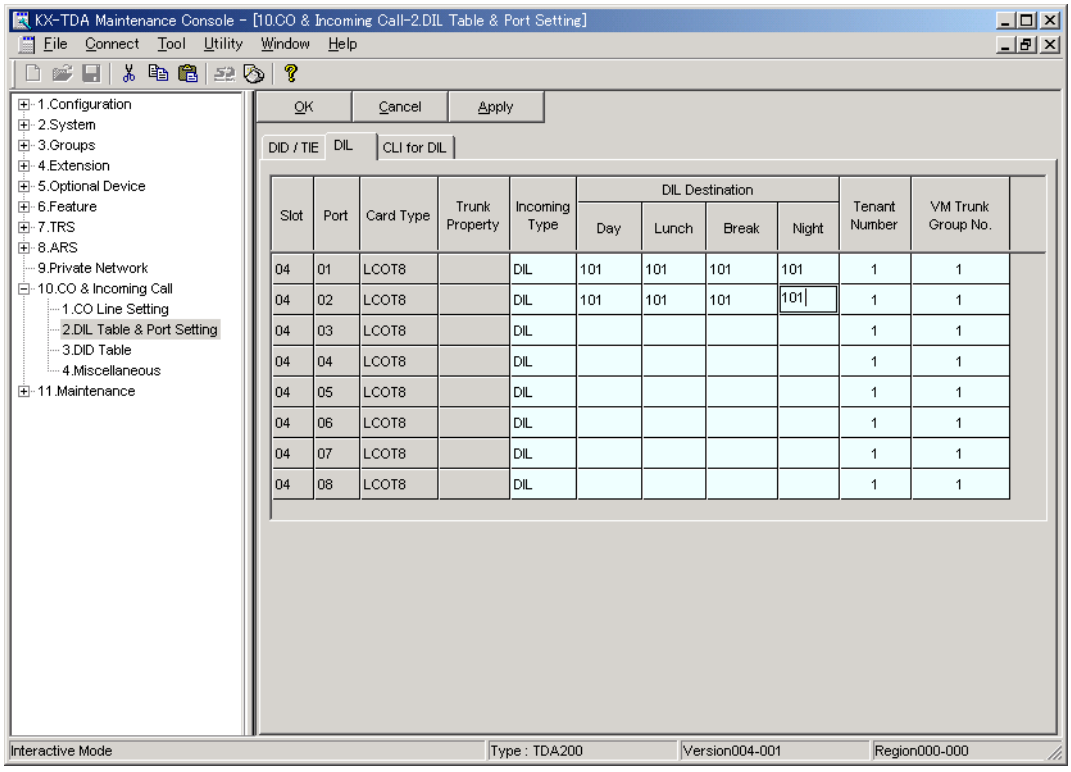
Program the PBX to direct incoming trunk calls to an operator, and to then direct those calls to the VPS when the operator does not answer.

a) Program the PBX so that incoming trunk calls are directed to an operator (DIL feature).

1) **Go** to the **"CO & Incoming Call-DIL Table & Port Setting"** screen.

2) **Assign "DIL Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number (operator extension).

3) **Click "Apply"** to save the changed data.

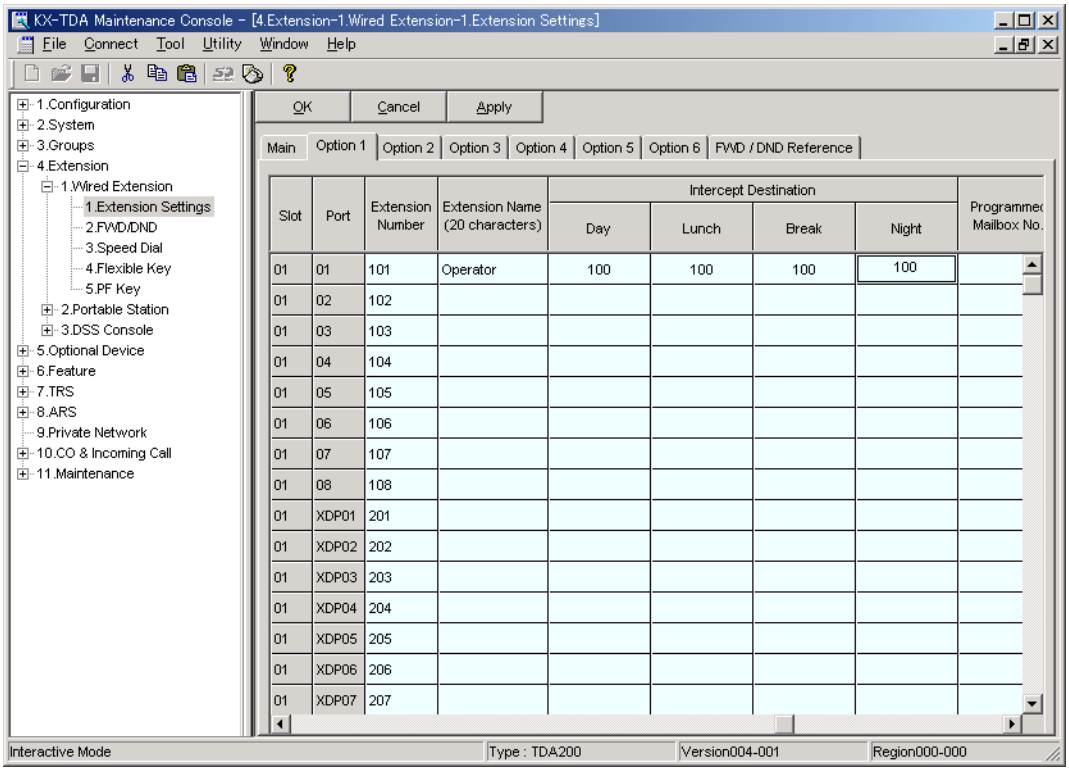


b) Program the PBX so that unanswered calls to the operator are redirected to the VPS (Intercept Routing No Answer feature).

1) **Go** to the **"Extension-Wired Extension-Extension Settings"** screen.

2) **Assign "Intercept Destination Day/Night/Lunch/Break"** for the operator's extension to a floating extension number (VPS Port).

3) **Click "Apply"** to save the changed data.

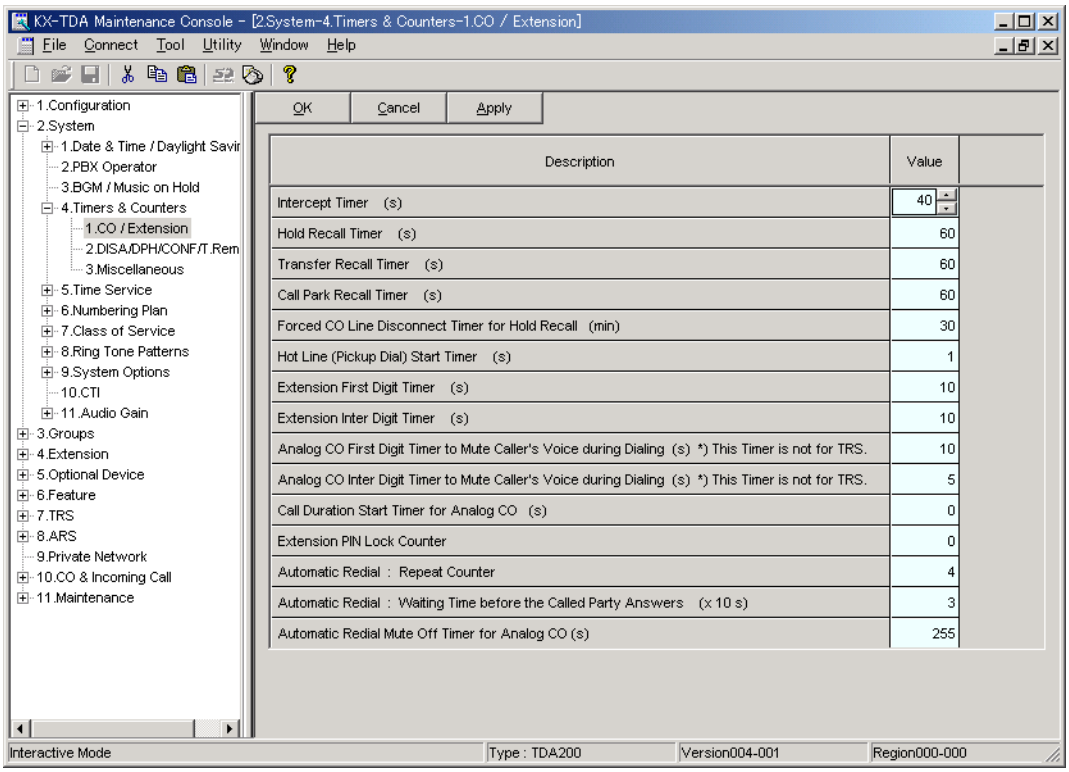


c) Set the amount of time that passes before a call is considered "unanswered" and therefore forwarded to the VPS (Intercept Routing No Answer timer).

1) **Go** to the **"System-Timers & Counters-CO / Extension"** screen.

2) **Assign** the **"Intercept Timer"** parameter.

3) **Click "Apply"** to save the changed data.


KX-TDA Maintenance Console - [2.System-4.Timers & Counters-1.CO / Extension]
File Connect Tool Utility Window Help
1.Configuration
2.System
1.Date & Time / Daylight Savir
2.PBX Operator
3.BGM / Music on Hold
4.Timers & Counters
1.CO / Extension
2.DISA/DPH/CONF/T.Rem
3.Miscellaneous
5.Time Service
6.Numbering Plan
7.Class of Service
8.Ring Tone Patterns
9.System Options
10.CTI
11.Audio Gain
3.Groups
4.Extension
5.Optional Device
6.Feature
7.TRS
8.ARS
9.Private Network
10.CO & Incoming Call
11.Maintenance
OK
Cancel
Apply
Description
Value
Intercept Timer (s) 40
Hold Recall Timer (s) 60
Transfer Recall Timer (s) 60
Call Park Recall Timer (s) 60
Forced CO Line Disconnect Timer for Hold Recall (min) 30
Hot Line (Pickup Dial) Start Timer (s) 1
Extension First Digit Timer (s) 10
Extension Inter Digit Timer (s) 10
Analog CO First Digit Timer to Mute Caller's Voice during Dialing (s) *) This Timer is not for TRS. 10
Analog CO Inter Digit Timer to Mute Caller's Voice during Dialing (s) *) This Timer is not for TRS. 5
Call Duration Start Timer for Analog CO (s) 0
Extension PIN Lock Counter 0
Automatic Redial : Repeat Counter 4
Automatic Redial : Waiting Time before the Called Party Answers (x 10 s) 3
Automatic Redial Mute Off Timer for Analog CO (s) 255
Interactive Mode
Type : TDA200
Version004-001
Region000-000

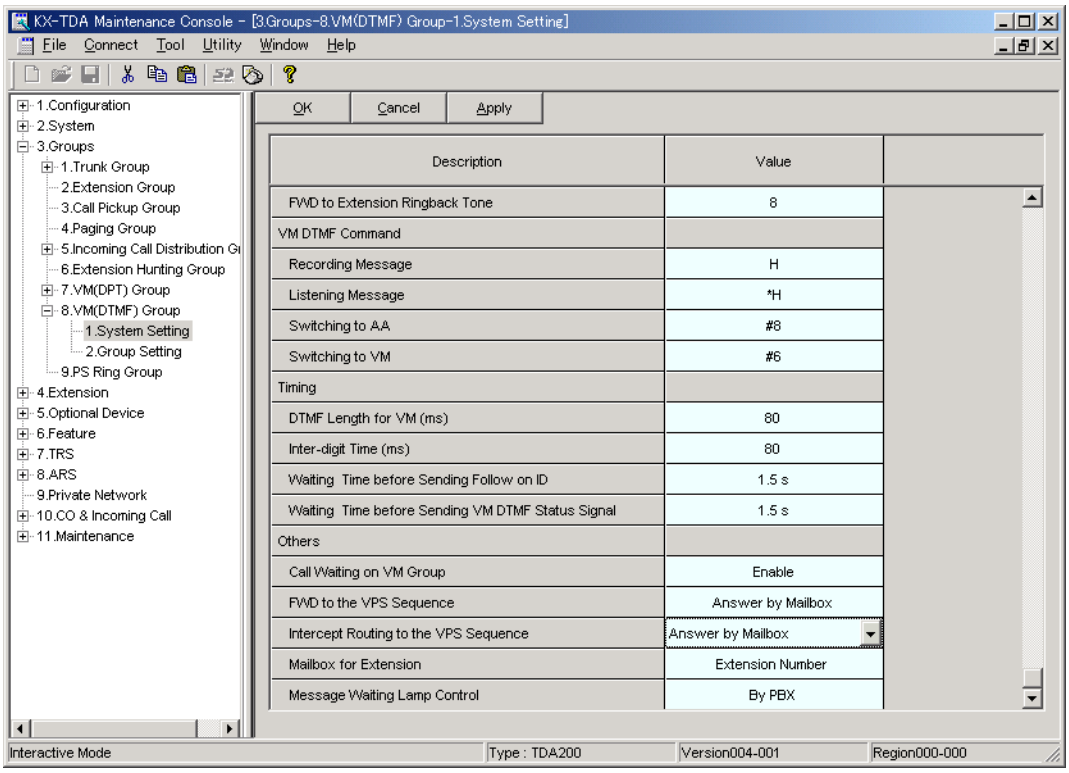
d) Program the PBX so that it will direct intercepted calls to the VPS.

1) **Go** to the "**Groups-VM (DTMF) Group-System Setting**" screen.

2) **Select** "**None**", "**Answer by Mailbox**", or "**AA**" as the parameter for "**Intercept Routing to the VPS Sequence**".

This parameter determines which DTMF command the PBX will send to the VPS in order to select the desired service (AA, VM, Custom Service, etc.). If using a Custom Service, select "None".

3) **Click "Apply"** to save the changed data.



[Example Settings (3)]

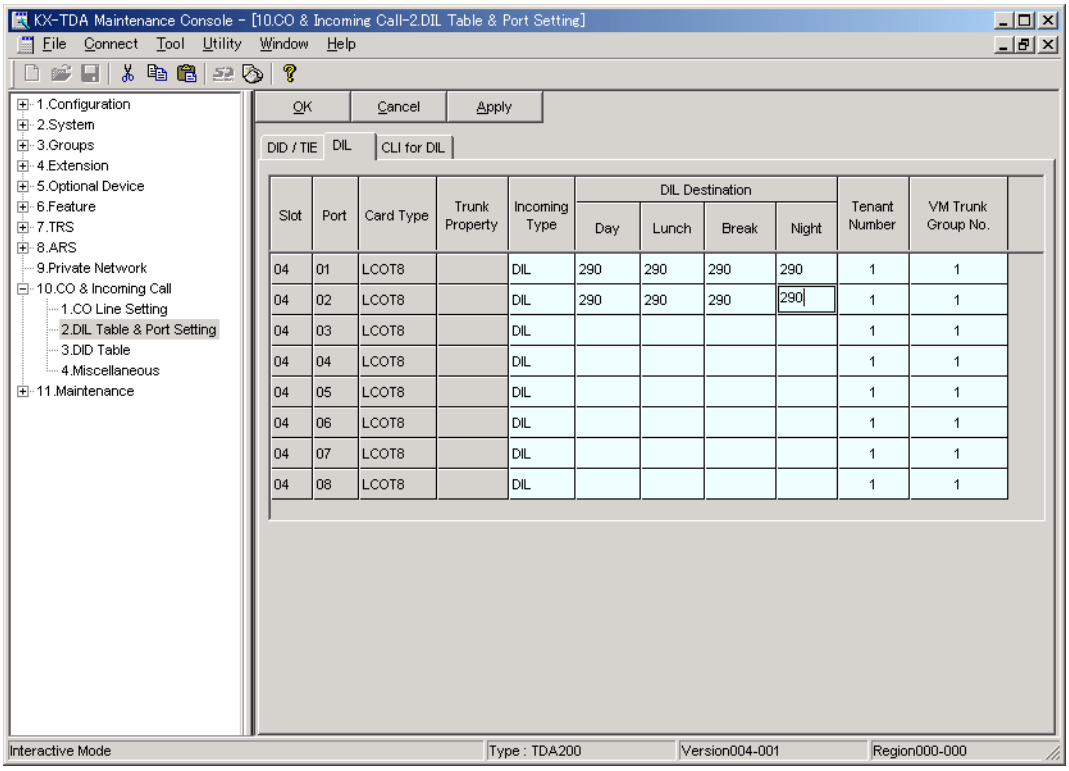
Program the PBX to direct incoming trunk calls to an Incoming Call Distribution (ICD) group, and to then direct those calls to the VPS when they are not answered.

a) Program the PBX so that incoming trunk calls are directed to an ICD group (DIL feature).

1) **Go** to the **"CO & Incoming Call-DIL Table & Port Setting"** screen.

2) **Assign "DIL Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number (floating extension number of the ICD group).

3) **Click "Apply"** to save the changed data.



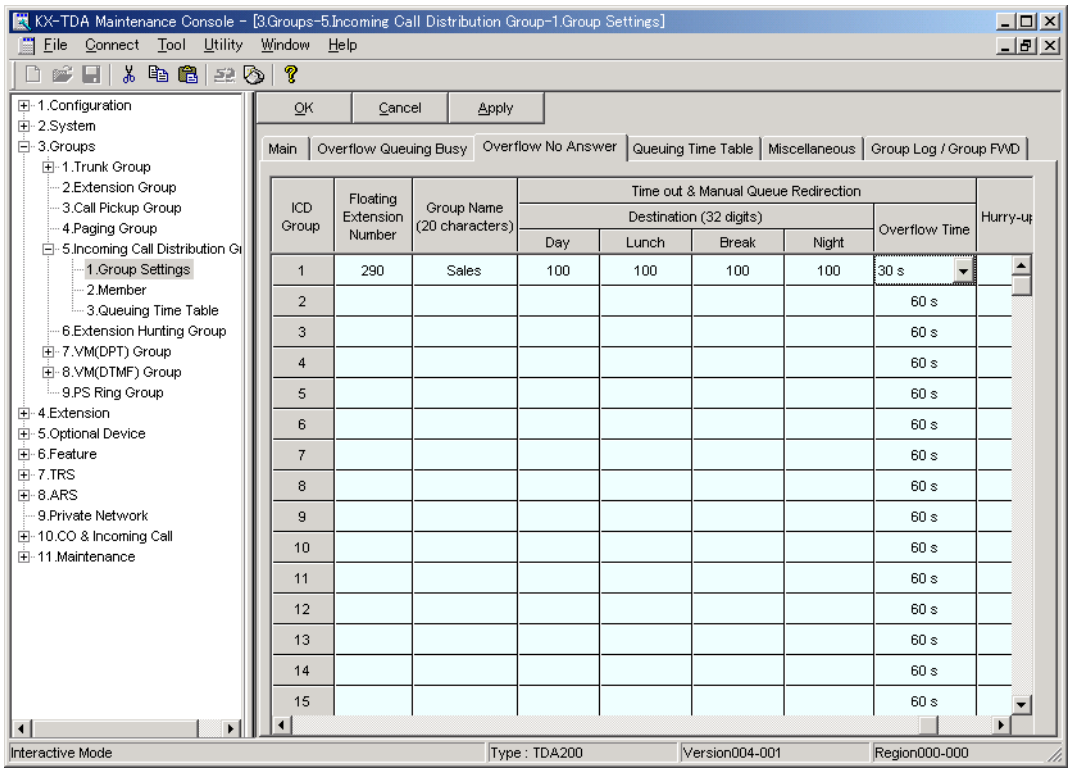
b) Program the PBX so that unanswered calls to the ICD group are redirected to the VPS (ICD Group Overflow feature).

1) **Go** to the **"Groups-Incoming Call Distribution Group-Group Settings"** screen.

2) **Assign "Time out & Manual Queue Redirection-Destination"** for the ICD group to a floating extension number (VPS Port).

3) **Assign "Overflow Time"** parameter.

4) **Click "Apply"** to save the changed data.



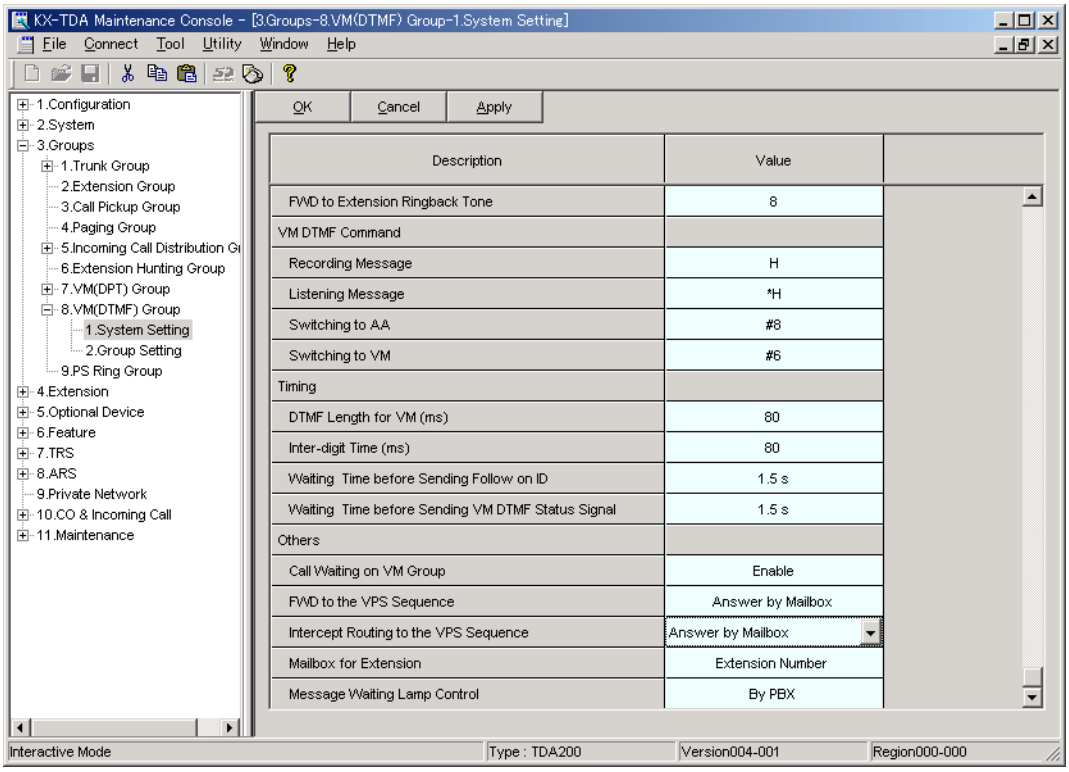
c) Program the PBX so that it will direct overflowed calls to the VPS.

1) **Go** to the **"Groups-VM (DTMF) Group-System Setting"** screen.

2) **Select** "**None**", "**Answer by Mailbox**", or "**AA**" as the parameter for "**Intercept Routing to the VPS Sequence**".

This parameter determines which DTMF command the PBX will send to the VPS in order to select the desired service (AA, VM, Custom Service, etc.). If using a Custom Service, select "None".

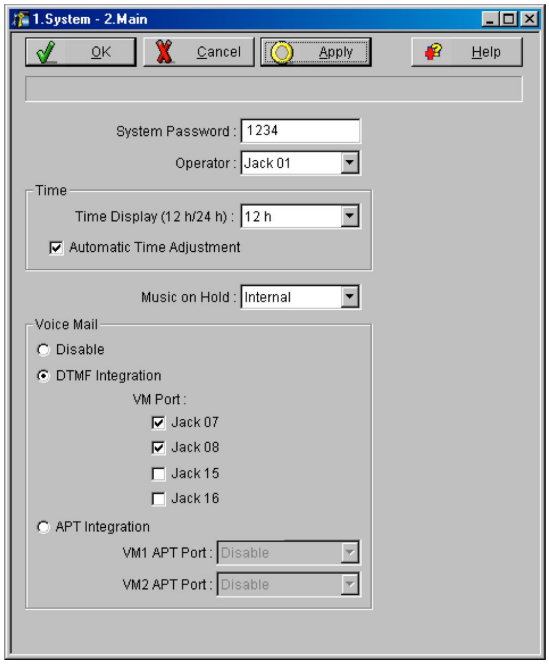
3) **Click "Apply"** to save the changed data.



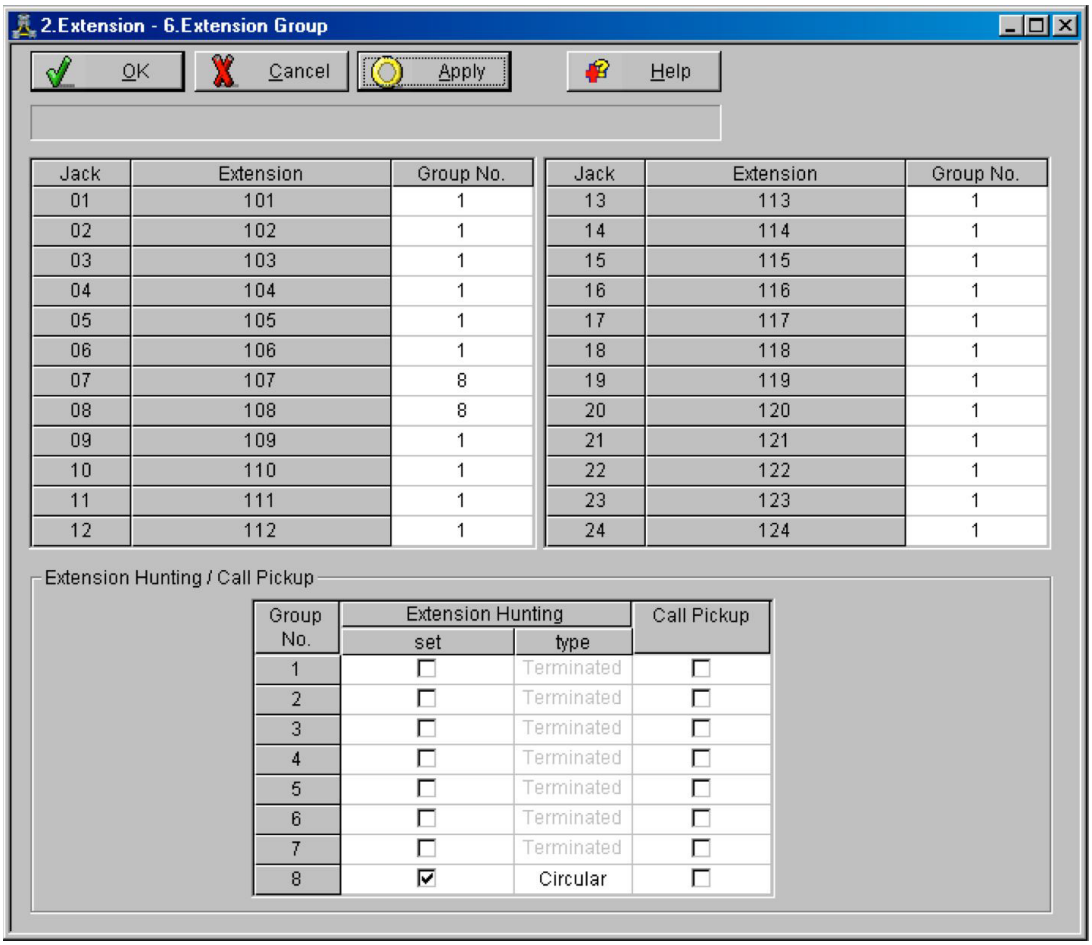
5.4 KX-TE Series PBX Programming for Inband Integration

The instructions in this section are for programming a KX-TE series PBX via the Operating and Maintenance Tool. To program a KX-TE series PBX using the Manager Extension, follow the instructions for KX-TA series PBX programming by referring to 5.7 KX-TA Series PBX Programming for Inband Integration.

1. Go to the "1.System-2.Main" screen.
2. Under "Voice Mail", select "DTMF Integration", then select each extension jack that is connected to the VPS. Click "Apply" to save the changed data.



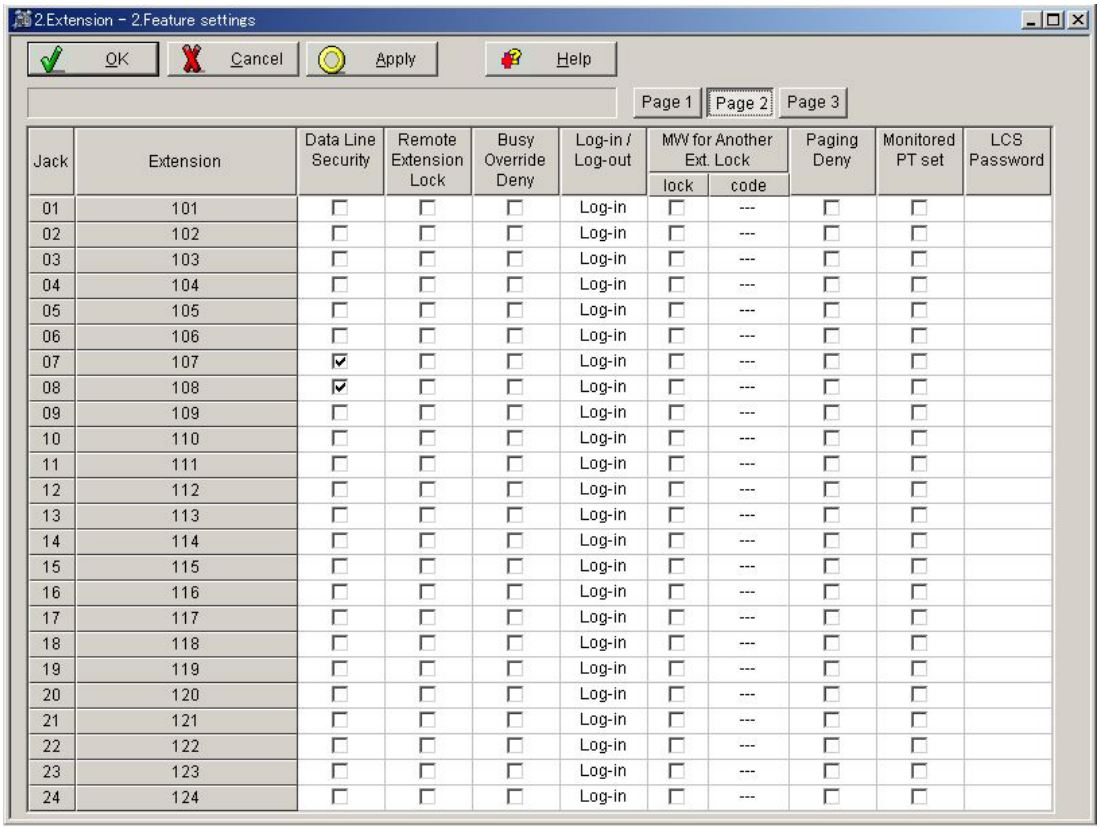
3. Go to the "2.Extension-6.Extension Group" screen.
4. Put all extensions connected to the VPS into the same extension group.
   Reserve this extension group for these extensions! Do not mix other extensions into this group.
5. Set the hunting type for the VPS extension groups to "Circular". Click "Apply" to save the changed data.



Jack	Extension	Group No.	Jack	Extension	Group No.
01	101	1	13	113	1
02	102	1	14	114	1
03	103	1	15	115	1
04	104	1	16	116	1
05	105	1	17	117	1
06	106	1	18	118	1
07	107	8	19	119	1
08	108	8	20	120	1
09	109	1	21	121	1
10	110	1	22	122	1
11	111	1	23	123	1
12	112	1	24	124	1

Group No.	Extension Hunting		Call Pickup
	set	type	
1	☐	Terminated	☐
2	☐	Terminated	☐
3	☐	Terminated	☐
4	☐	Terminated	☐
5	☐	Terminated	☐
6	☐	Terminated	☐
7	☐	Terminated	☐
8	☑	Circular	☐

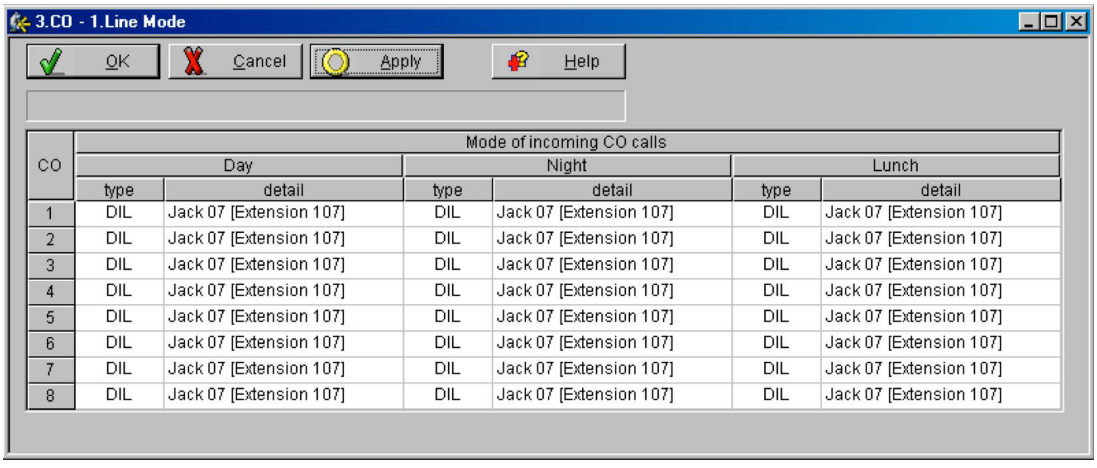
6. Go to the "2.Extension-2.Feature Settings" screen.
7. Enable Data Line Security for each extension connected to the VPS. Click "Apply" to save the changed data.



Jack	Extension	Data Line Security	Remote Extension Lock	Busy Override Deny	Log-in / Log-out	MW for Another Ext. Lock		Paging Deny	Monitored PT set	LCS Password
						lock	code			
01	101	☐	☐	☐	Log-in	☐	---	☐	☐	
02	102	☐	☐	☐	Log-in	☐	---	☐	☐	
03	103	☐	☐	☐	Log-in	☐	---	☐	☐	
04	104	☐	☐	☐	Log-in	☐	---	☐	☐	
05	105	☐	☐	☐	Log-in	☐	---	☐	☐	
06	106	☐	☐	☐	Log-in	☐	---	☐	☐	
07	107	☑	☐	☐	Log-in	☐	---	☐	☐	
08	108	☑	☐	☐	Log-in	☐	---	☐	☐	
09	109	☐	☐	☐	Log-in	☐	---	☐	☐	
10	110	☐	☐	☐	Log-in	☐	---	☐	☐	
11	111	☐	☐	☐	Log-in	☐	---	☐	☐	
12	112	☐	☐	☐	Log-in	☐	---	☐	☐	
13	113	☐	☐	☐	Log-in	☐	---	☐	☐	
14	114	☐	☐	☐	Log-in	☐	---	☐	☐	
15	115	☐	☐	☐	Log-in	☐	---	☐	☐	
16	116	☐	☐	☐	Log-in	☐	---	☐	☐	
17	117	☐	☐	☐	Log-in	☐	---	☐	☐	
18	118	☐	☐	☐	Log-in	☐	---	☐	☐	
19	119	☐	☐	☐	Log-in	☐	---	☐	☐	
20	120	☐	☐	☐	Log-in	☐	---	☐	☐	
21	121	☐	☐	☐	Log-in	☐	---	☐	☐	
22	122	☐	☐	☐	Log-in	☐	---	☐	☐	
23	123	☐	☐	☐	Log-in	☐	---	☐	☐	
24	124	☐	☐	☐	Log-in	☐	---	☐	☐	

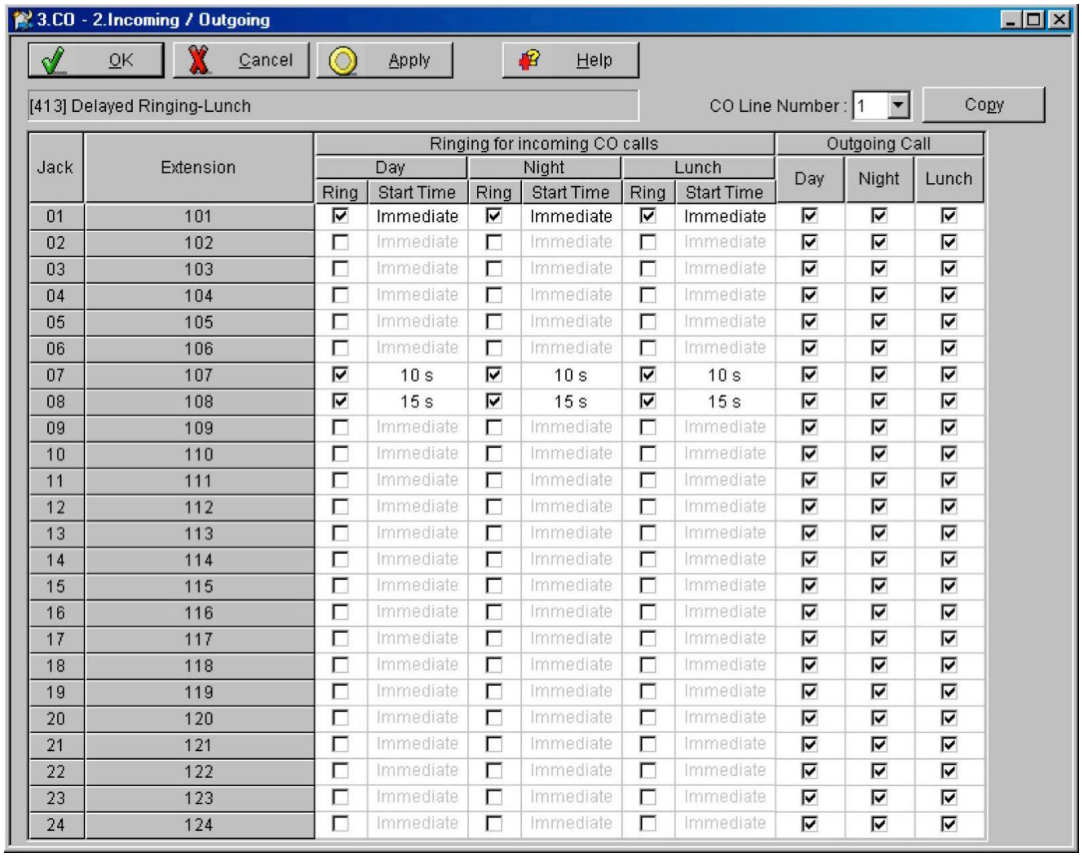
8. Select the appropriate trunk feature settings depending on how your customer plans to use the VPS: a) to answer all incoming calls, b) as an operator backup, or c) to only answer calls not answered by user extensions.
Example trunk feature settings:

a) If the VPS is answering all calls:
Go to the "3.CO-1.Line Mode" screen. Program all lines DIL to the first extension of the Voice Mail hunt group. The PBX will allow incoming trunk calls to hunt only if the trunks are DIL to the first port of the hunt group. Lines programmed as "Normal" do not hunt. Click "Apply" to save the changed data.

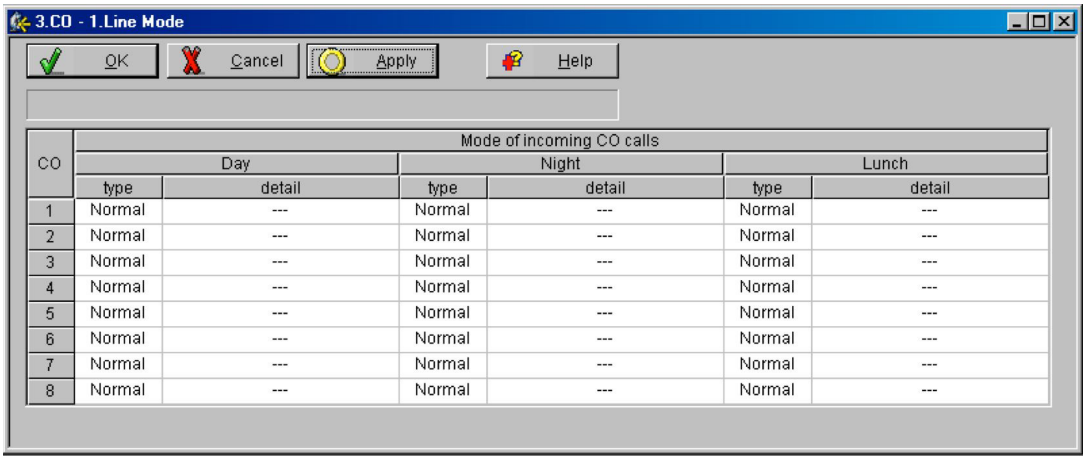


CO	Mode of incoming CO calls					
	Day		Night		Lunch	
	type	detail	type	detail	type	detail
1	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
2	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
3	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
4	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
5	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
6	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
7	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]
8	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]	DIL	Jack 07 [Extension 107]

b) If the VPS is only answering calls not answered by the operator (Operator Backup):
Go to the "3.CO-2.Incoming / Outgoing" screen. Program lines to ring operator extensions immediately for all time modes. To give the operator (extension 101 in this example) time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Finally, go to the "3.CO-1.Line Mode" screen and set all trunk types to "Normal". Click "Apply" to save the changed data.



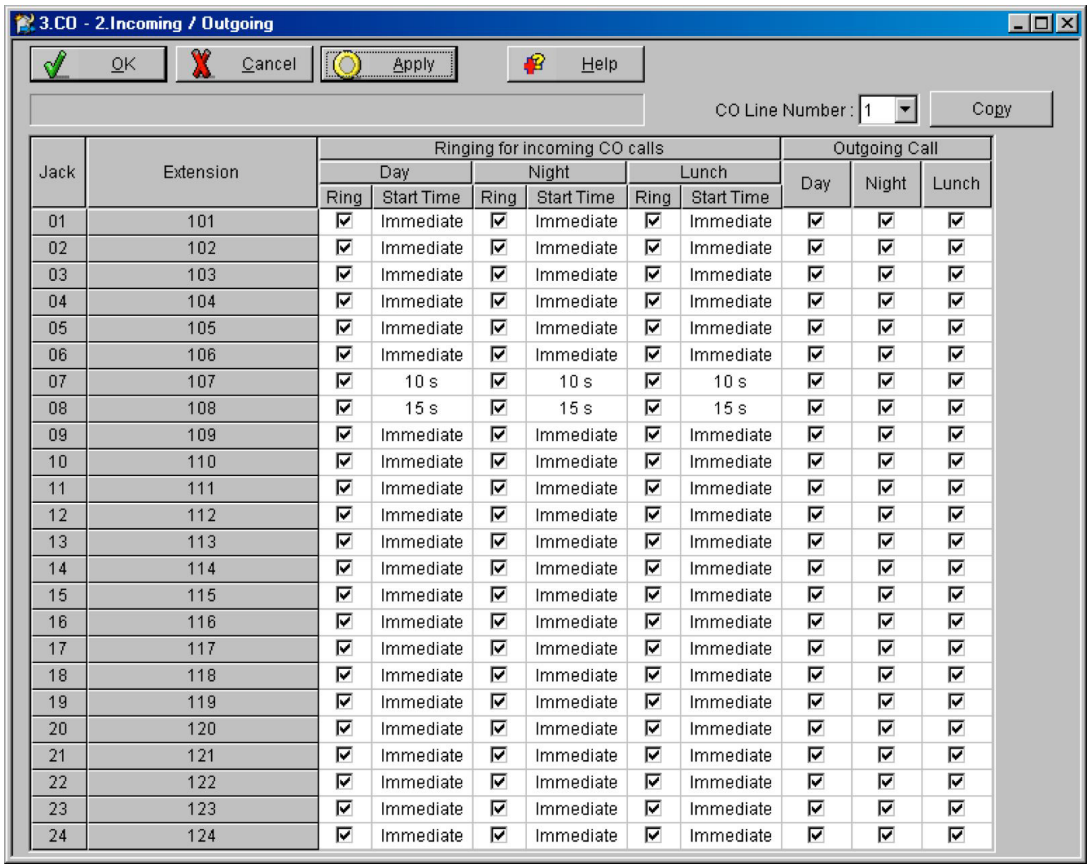
Jack	Extension	Ringing for incoming CO calls						Outgoing Call		
		Day		Night		Lunch				
		Ring	Start Time	Ring	Start Time	Ring	Start Time	Day	Night	Lunch
01	101	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
02	102	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
03	103	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
04	104	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
05	105	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
06	106	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
07	107	☑	10 s	☑	10 s	☑	10 s	☑	☑	☑
08	108	☑	15 s	☑	15 s	☑	15 s	☑	☑	☑
09	109	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
10	110	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
11	111	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
12	112	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
13	113	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
14	114	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
15	115	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
16	116	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
17	117	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
18	118	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
19	119	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
20	120	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
21	121	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
22	122	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
23	123	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑
24	124	☐	Immediate	☐	Immediate	☐	Immediate	☑	☑	☑



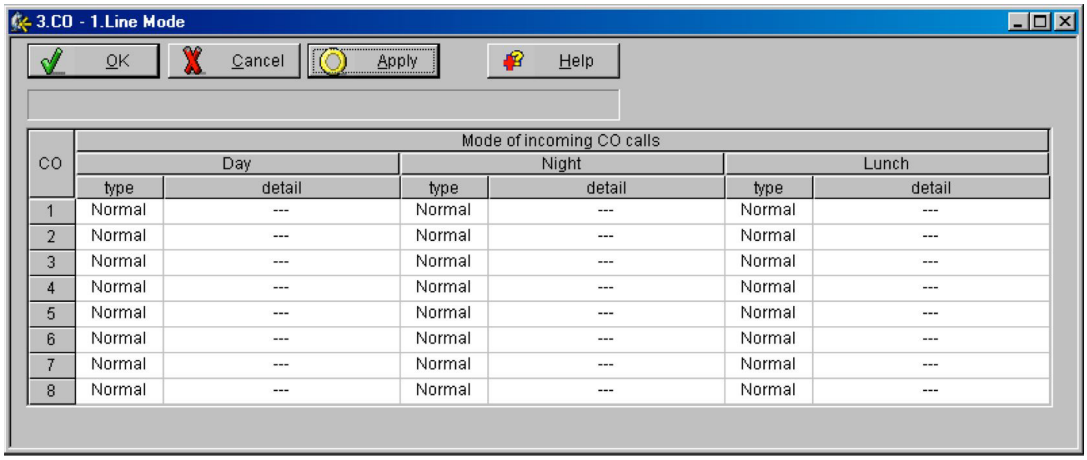
CO	Mode of incoming CO calls					
	Day		Night		Lunch	
	type	detail	type	detail	type	detail
1	Normal	---	Normal	---	Normal	---
2	Normal	---	Normal	---	Normal	---
3	Normal	---	Normal	---	Normal	---
4	Normal	---	Normal	---	Normal	---
5	Normal	---	Normal	---	Normal	---
6	Normal	---	Normal	---	Normal	---
7	Normal	---	Normal	---	Normal	---
8	Normal	---	Normal	---	Normal	---

c) If the VPS is only answering calls not answered by user extensions:
Go to the "3.CO-2.Incoming / Outgoing" screen. Program lines to ring user extensions

immediately for all time modes. To give users time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Finally, go to the "3.CO-1.Line Mode" screen and set all trunk types to "Normal". Click "Apply" to save the changed data.



Jack	Extension	Ringing for incoming CO calls						Outgoing Call		
		Day		Night		Lunch		Day	Night	Lunch
		Ring	Start Time	Ring	Start Time	Ring	Start Time			
01	101	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
02	102	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
03	103	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
04	104	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
05	105	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
06	106	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
07	107	☑	10 s	☑	10 s	☑	10 s	☑	☑	☑
08	108	☑	15 s	☑	15 s	☑	15 s	☑	☑	☑
09	109	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
10	110	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
11	111	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
12	112	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
13	113	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
14	114	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
15	115	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
16	116	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
17	117	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
18	118	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
19	119	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
20	120	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
21	121	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
22	122	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
23	123	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑
24	124	☑	Immediate	☑	Immediate	☑	Immediate	☑	☑	☑



CO	Mode of incoming CO calls					
	Day		Night		Lunch	
	type	detail	type	detail	type	detail
1	Normal	---	Normal	---	Normal	---
2	Normal	---	Normal	---	Normal	---
3	Normal	---	Normal	---	Normal	---
4	Normal	---	Normal	---	Normal	---
5	Normal	---	Normal	---	Normal	---
6	Normal	---	Normal	---	Normal	---
7	Normal	---	Normal	---	Normal	---
8	Normal	---	Normal	---	Normal	---

5.5 KX-TD Series PBX Programming for Inband Integration

For KX-TD500 programming, refer to 5.6 KX-TD500 PBX Programming for Inband Integration.

DPT Integration is recommended when using the VPS with the KX-TD612, KX-TD816, or KX-TD1232, however, Inband Integration is necessary when the software version of the PBX does not support DPT Integration.

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

5.5.1 KX-TD Series PBX Programming via the Manager's Extension

For KX-TD500 programming, refer to 5.6 KX-TD500 PBX Programming for Inband Integration.

Select a maximum of 2 extension ports to be connected to the VPS. Plug each extension into a Voice Mail port.

Go to System Program **[602]** and assign the Voice Mail extensions to a different extension group. By default, all extensions are in Extension Group 1.

Go to System Program **[106]** and assign the new Extension Group to Auto Attendant (AA). Then go to System Program **[813]** and assign a floating number to the hunting group.

If your KX-TD816 or KX-TD1232 supports System Program **[131]** (Hunting Group Assignment), program as follows.

Go to System Program **[131]** and enter the Voice Mail extensions into a hunting group.
Go to System Program **[106]** and assign the hunting group to Auto Attendant (AA).
Then go to System Program **[813]** and assign a floating number to the hunting group.

5.5.2 KX-TD Series PBX Programming via the Operating and Maintenance Tool

For KX-TD500 programming, refer to 5.6 KX-TD500 PBX Programming for Inband Integration.

1. **Go** to the *Main Menu*. **Choose "System Data Programming".**
   (BATCH [1] or INTERACTIVE [2]).
   - *Before choosing Batch Programming, you must open a file in the Disk File Management Menu (Item 3).*
   - *Before choosing Interactive Programming, you must connect with the system in the DSHS Connect/Disconnect menu.*

Main Menu

1. System Data Programming (BATCH)
2. System Data Programming (INTERACTIVE)
3. Disk File Management
4. DSHS Management
5. DSHS Connect/Disconnect
6. Quit

Select the number : [ ]

2. **Choose "Station"** from the *System Data Programming Main Menu*.

3. **Choose "Station Setting"** or "**Station Setting 1**" from the *Station Menu*.

4. **Enable XDP** ports. Additionally, you may need to place Voice Mail extensions in an Extension Group.

Note

- The following steps are divided into parts a) and b). Follow step a) or b) according to the content displayed on your screen.

5.

a) **Return** to the *System Data Programming Main Menu*. **Select "System".**

b) Return to *Station*. Select "Hunting Group Setting 1".

6.

a) **Choose "Miscellaneous"** from the *System Menu*.

b) Under "Hunting Group Setting 1", set the Extension Group set in step 4 to [AA] for Automated Attendant.

7.

a) **Choose** the **"Call Hunting"** extension group. **Set** the Extension Group set in step 4 to **[AA]** for Automated Attendant.

b) Select "Hunting Group Setting 2". Set Group Extension.

8.

a) **Return** to the *System Data Programming Main Menu*. **Select "Line"**, then **select "CO Line Setting 1"** or **"CO Line Setting 2"**.

b) Program all lines DIL to the first extension of the Voice Mail hunt group.

5.6 KX-TD500 PBX Programming for Inband Integration

DPT Integration is recommended when using the VPS with the KX-TD500, however, Inband Integration is necessary when:

- the PBX has available SLT ports but no available DPT ports.
- the cards installed in the PBX or the software version of the PBX do not support DPT Integration.

Programming procedures and availability may vary by country/area, software version, etc. Refer to the documentation included with the PBX or consult your dealer for more information.

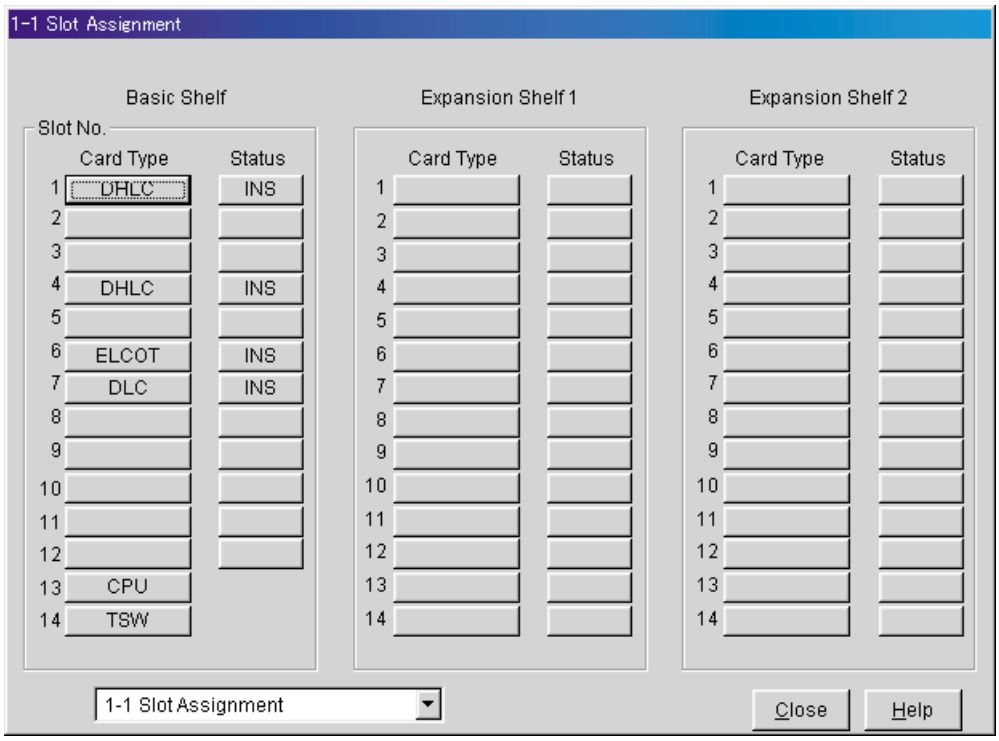
1. Assignment of the extension card to be connected to the VPS

a) **Go** to the **"1-1 Slot Assignment"** screen.

b) **Assign** the slot card type to be installed to **"DHLC", "HLC", "SLC", "ESLC",** or **"SLC-M"** SLT interface supports.

c) **Click "Apply"** to save the slot card type assignment.

d) **Set "Card Status"** to **"INS".**



2. Assignment of the extension ports to be connected to the VPS

a) **Go** to the **"1-3 Extension Port Assignment"** screen.

b) **Assign "Attribute"** of the port to be connected to **"TEL"** (default).

c) **Assign "DN"** for the port (click **"DN Refer"** to check the available directory numbers).

Note

- This program allows you to assign an extension number to each Voice Mail port. To reach the VPS, users dial these extension numbers.

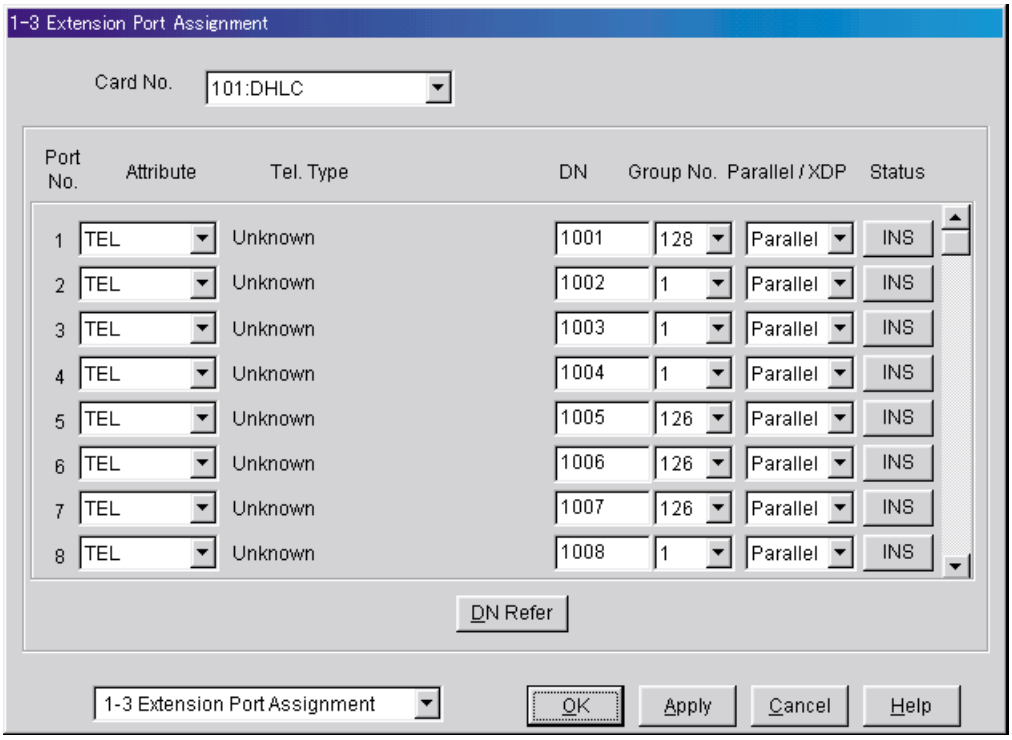
d) **Assign "Extension Group No."** for the port.

Note

- Specify the extension group number (126 or 127 by default) to which VM or AA extension groups have been assigned. Group numbers 1 to 128 are available to the VPS through additional programming.

e) **Click "Apply"** to save the changed data.

f) **Set "Port Status"** to **"INS".**



3. Assignment of the extension line to be connected to the VPS

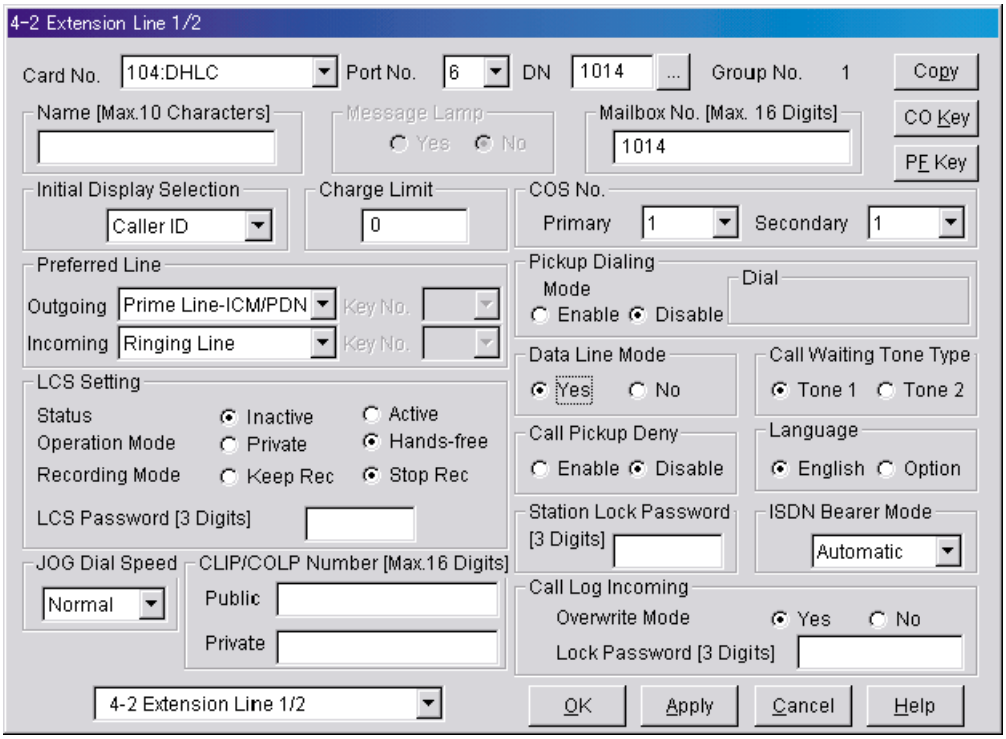
a) **Go** to the **"4-2 Extension Line 1/2"** screen.

b) **Set "Data Line Mode"** to **"Yes".**

c) **Click "Apply"** to save the changed data.

Note

- This program prevents the VM port from being interrupted by the "Call Waiting", "Hold Recall", and "Executive Busy Override" features during a call.



4. Settings for the trunk features

Select the appropriate trunk feature settings depending on how your customer plans to use the VPS.

- The VPS answers all incoming trunk calls promptly.
  Go to [Example Settings (1)].
- The VPS answers when the operator does not take the call after a specified number of rings.
  Go to [Example Settings (2)].
- The VPS answers when an extension user does not take the call after a specified number of rings.
  Go to [Example Settings (3)].

[Example Settings (1)]

Program the PBX so that all trunk calls are directed to the VPS (DIL feature).

1) **Go** to the **"4-1 Trunk Line"** screen.

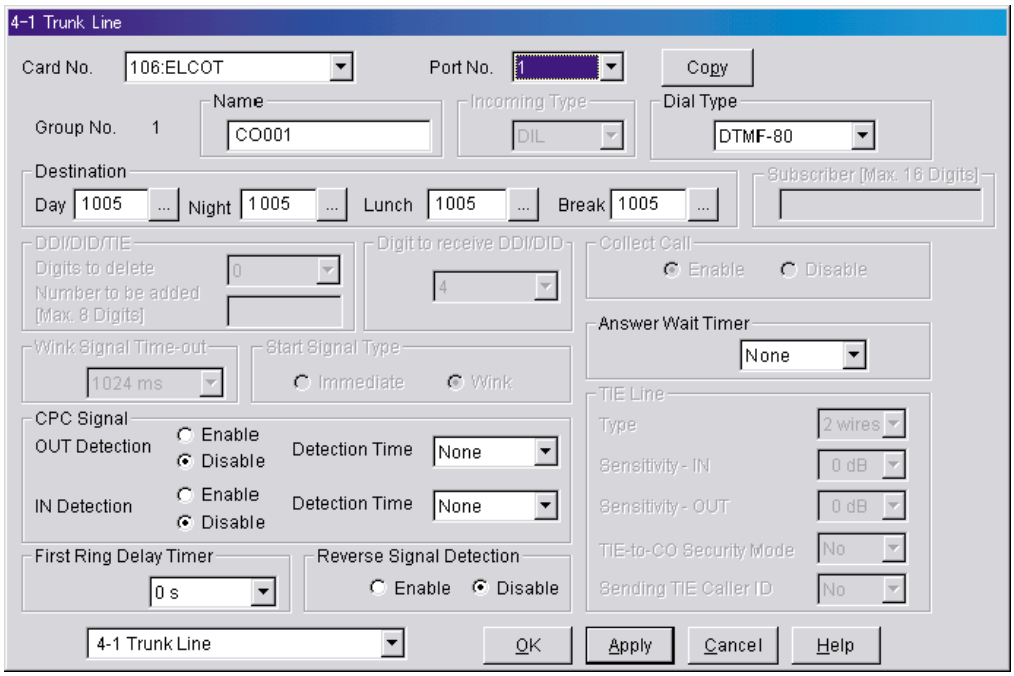
2) **Assign "Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number (VPS port).

3) **Click "Apply"** to save the changed data.

Calls received on the assigned trunks will be directed to the VPS. The VPS will answer those calls using the service (AA, VM, Custom Service, etc.) assigned to each VPS port through VPS programming.

Note

- Specify the FDN for the extension group to which VM or AA has been assigned. Please set "First Ring Delay Timer" to "5 s" (default: "0 s").



[Example Settings (2)]

Program the PBX to direct incoming trunk calls to an operator, and to then direct those calls to the VPS when the operator does not answer.

a) Program the PBX so that incoming trunk calls are directed to an operator (DIL feature).

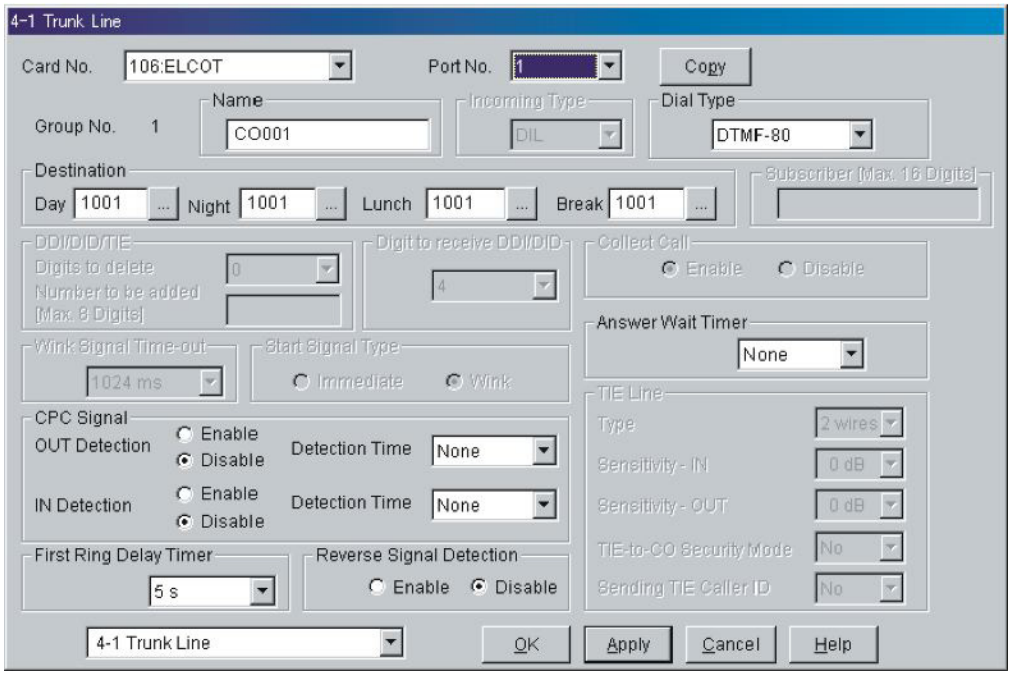
1) **Go** to the **"4-1 Trunk Line"** screen.

2) **Assign "Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number (an operator's extension).

3) **Click "Apply"** to save the changed data.

Note

- Specify the FDN for the extension group to which Operator has been assigned. Please set "First Ring Delay Timer" to "5 s" (default: "0 s").



b) Program the PBX so that unanswered calls to the operator are redirected to the VPS (Intercept Routing No Answer feature).

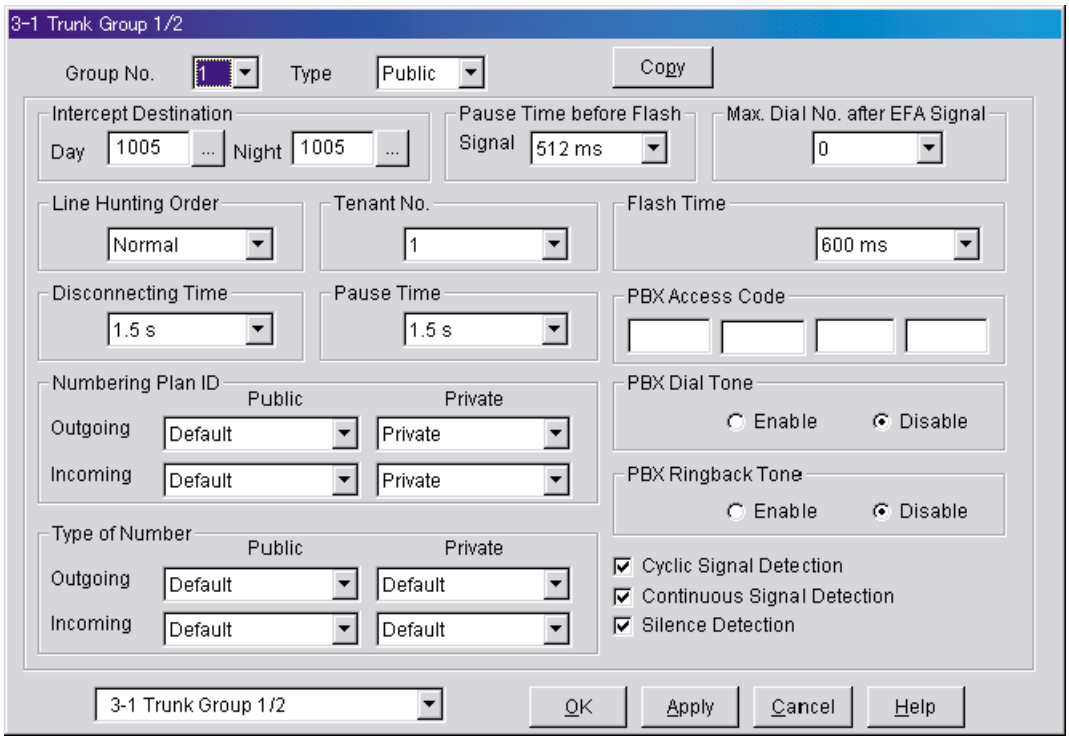
1) **Go** to the **"3-1 Trunk Group 1/2"** screen.

2) **Assign "Intercept Destination Day/Night"** for the trunk group.

3) **Click "Apply"** to save the changed data.

Note

- Specify the FDN for the extension group to which VM or AA has been assigned.

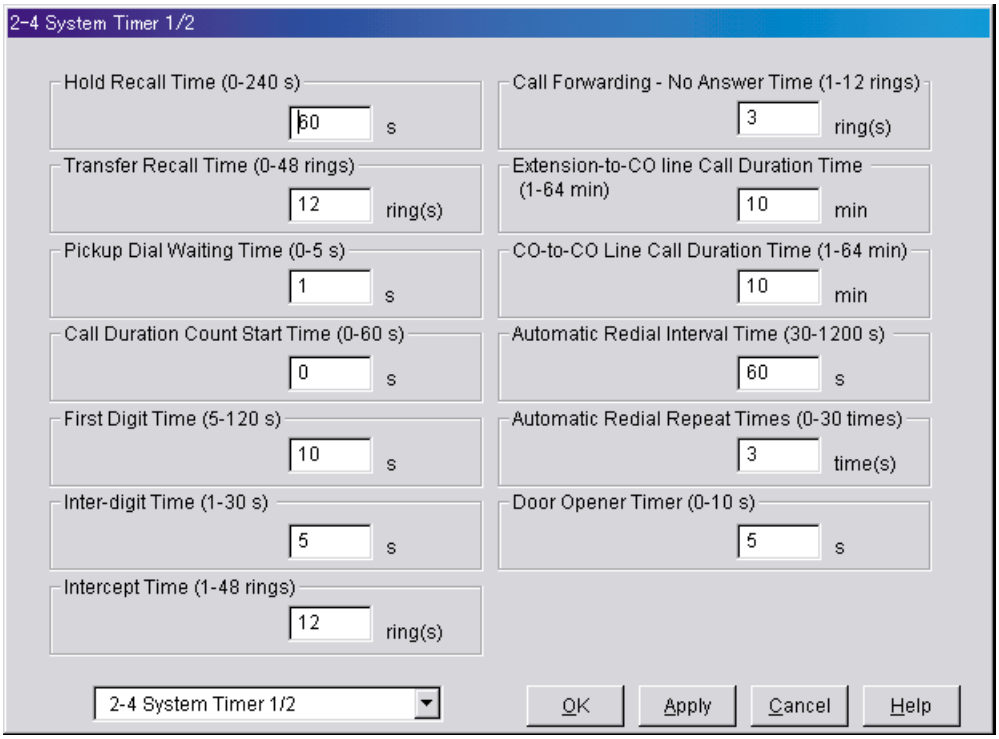


c) Set the number of rings before a call is considered "unanswered" and therefore forwarded to the VPS (Intercept Routing No Answer timer).

1) **Go** to the **"2-4 System Timer 1/2"** screen.

2) **Assign "Intercept Time"** parameter.

3) **Click "Apply"** to save the changed data.



[Example Settings (3)]

Program the PBX to direct incoming trunk calls to an extension or group and to then direct those calls to the VPS when they are not answered.

a) Program the PBX so that incoming trunk calls are directed to an extension or group (DIL feature).

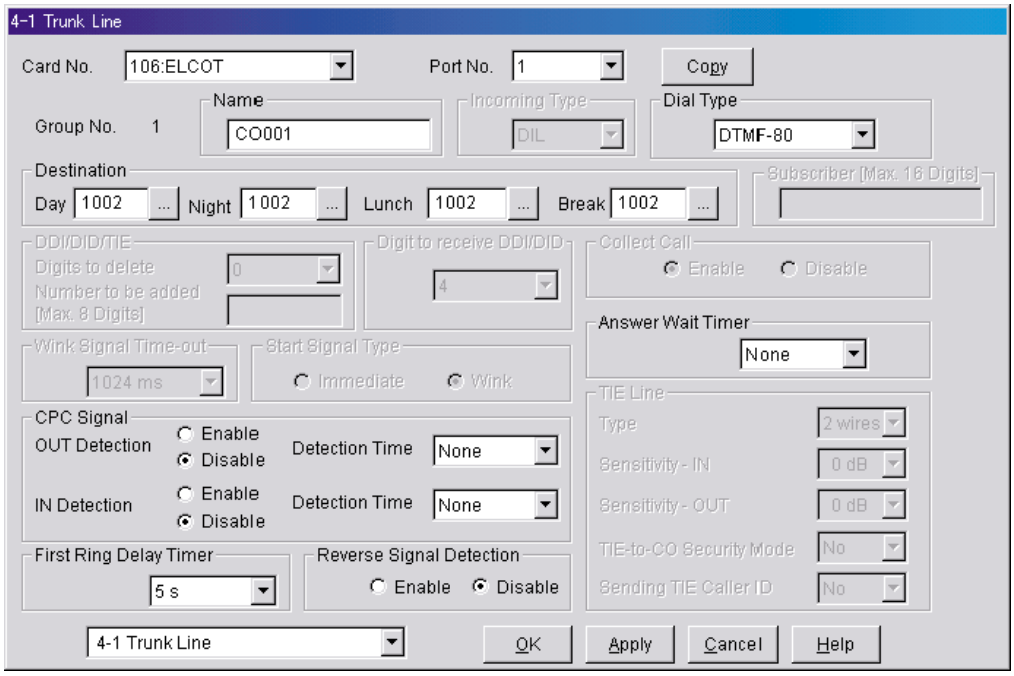
1) **Go** to the **"4-1 Trunk Line"** screen.

2) **Assign "Destination Day/Night/Lunch/Break"** for each trunk to a specific extension number.

3) **Click "Apply"** to save the changed data.

Note

- Please set "First Ring Delay Timer" to "5 s" (default: "0 s").



b) Program the PBX so that unanswered calls are redirected to the VPS (Intercept Routing No Answer feature).

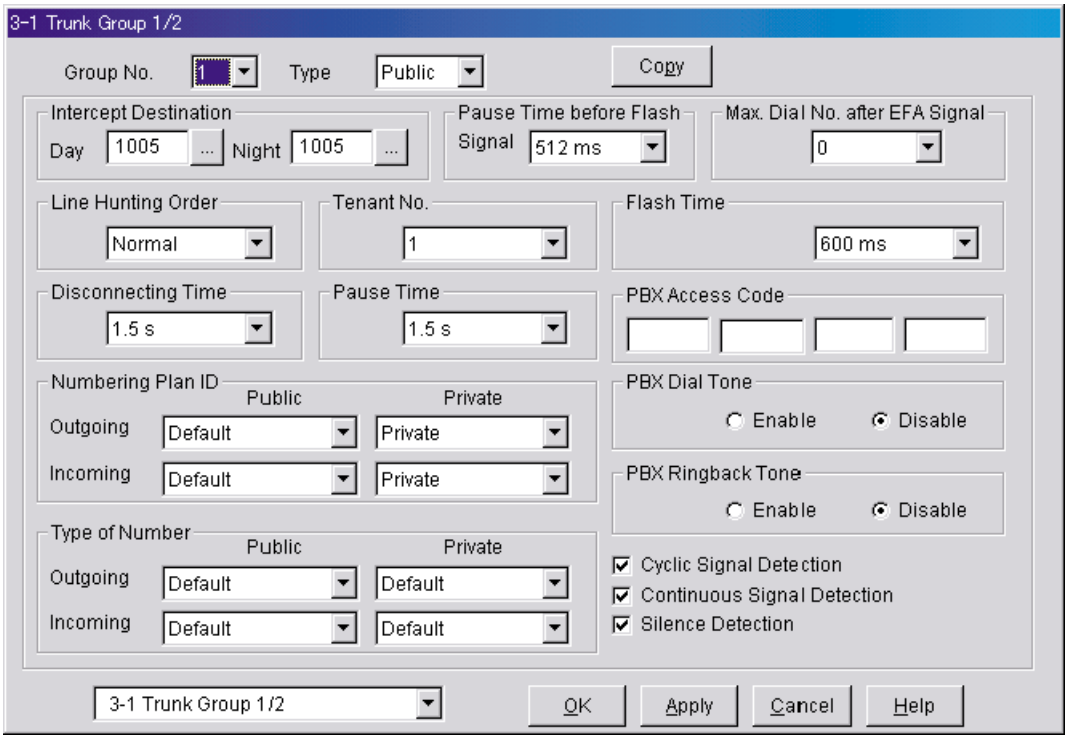
1) **Go** to the **"3-1 Trunk Group"** screen.

2) **Assign "Intercept Destination Day/Night"** for the trunk group.

3) **Click "Apply"** to save the changed data.

Note

- Specify the FDN for the extension group to which VM or AA has been assigned.

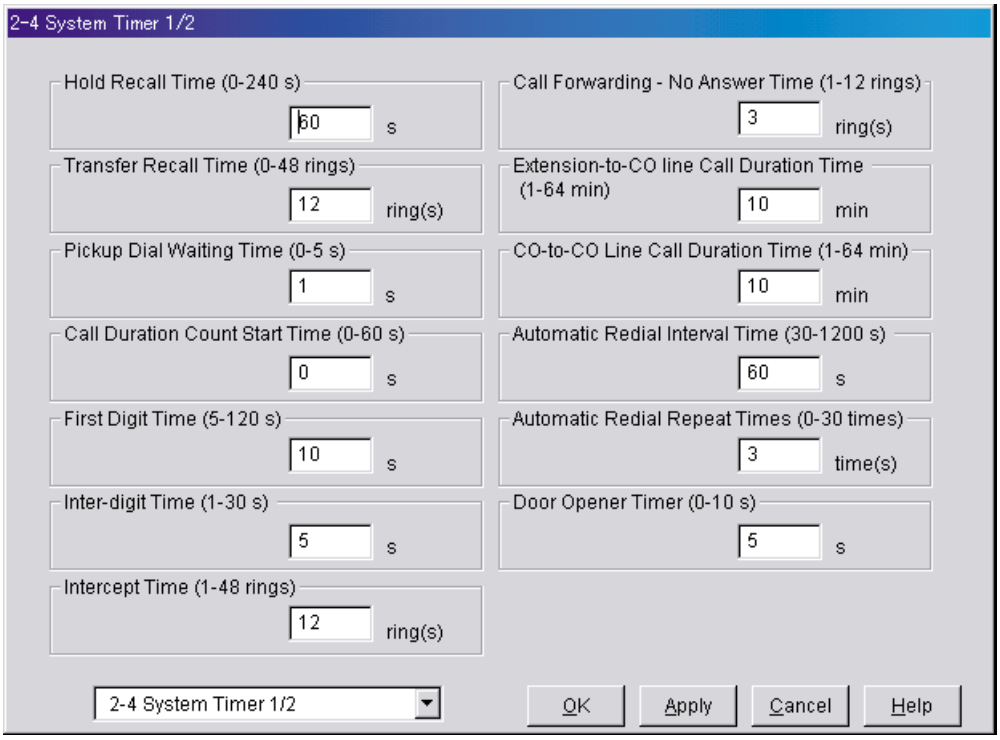


c) Program the amount of time that passes before unanswered calls are redirected to the VPS (Intercept Routing No Answer timer).

1) **Go** to the **"2-4 System Timer 1/2"** screen.

2) **Assign "Intercept Time"** parameter.

3) **Click "Apply"** to save the changed data.



5.7 KX-TA Series PBX Programming for Inband Integration

Note

- The following procedures can also be used for KX-TE series PBXs if programming via the Manager Extension is preferred.

APT Integration is recommended when using the VPS with a KX-TE or KX-TA series PBX, however, Inband Integration is necessary when:

- the PBX has available SLT ports but no available APT ports.
- the software version of the KX-TA series PBX do not support APT Integration.

Note

- If the PBX is programmed to use 2-digit extension numbers, DTMF Integration is not possible. Program the PBX to use 3-digit extension numbers using System Program [009].

1. Enable System Program **[102]** for each extension connected to the VPS.

   This parameter is used to tell the PBX which extensions are connected to the VPS. Ports with this parameter enabled can receive Follow-on ID and DTMF Signalling (busy, answered, disconnect, etc.) if the Voice Mail Integration and Touchtone Integration features are also enabled.

2. Enable System Program **[103]** to turn on DTMF Integration. On extensions with the Voice Mail port parameter enabled, the PBX can send DTMF signals to indicate call status; this increases VPS efficiency. Codes apply to all transferred calls; trunk calls only indicate a disconnection (provided the PBX is programmed for CPC Detection, and the Telephone Company sends the CPC signal). Refer to the Sequence Codes in 5.2.3 PBX Interface Parameters.

3. Put all extensions connected to the VPS into the same extension group using System Program **[600]**.

   Reserve this extension group for these extensions! Do not mix other extensions into this group.

4. Enable hunting for the VPS extension groups using System Program **[100]**.

5. Set the hunting type for the VPS extension groups to "Circular" using System Program **[101]**.

6. At every VPS extension, temporarily connect an SLT or test set, go off-hook and **dial 7301#** to turn on Data Line Security. This prevents the PBX from sending Executive Override or Call Waiting tones to those extensions. We recommend that all Voice Mail port extensions have this feature enabled to avoid interruption during recording.

7. Select the appropriate trunk feature settings depending on how your customer plans to use the VPS: a) to answer all incoming calls, b) as an operator backup, or c) to only answer calls not answered by user extensions.

   Recommended trunk feature settings:

a) If the VPS is answering all incoming calls:

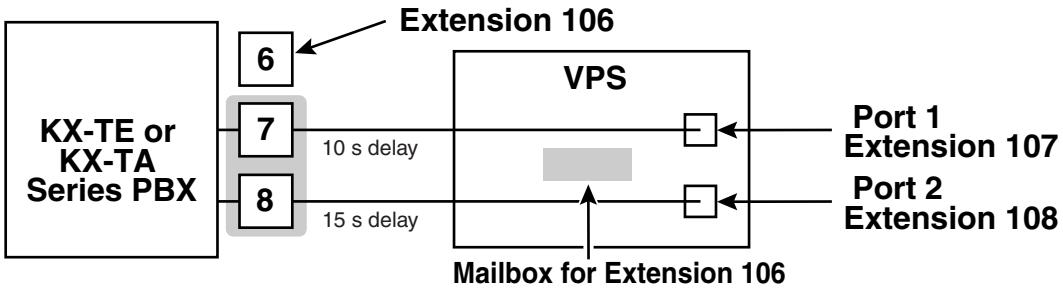
Trunk Mode—Use System Programs **[414]** (Day Mode), **[415]** (Night Mode), **[416]** (Lunch Mode) to set each trunk to "DIL" mode, and assign the first extension of the Voice Mail hunt group as the destination for calls received on each trunk. The PBX will allow incoming trunk calls to hunt only if the trunks are DIL to the first port of the hunt group. Lines programmed as **"Normal"** do not hunt.

b) If the VPS is only answering calls not answered by the operator (Operator Backup):

Flexible Ringing Assignment—For each trunk, use System Programs **[408]** (Day Mode), **[409]** (Night Mode), and **[410]** (Lunch Mode) to enable ringing at the operator's extension (jack).
Delayed Ringing Assignment—To give the operator time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Use System Programs **[411]** (Day Mode), **[412]** (Night Mode), and **[413]** (Lunch Mode).
Trunk Mode—Set the mode for each trunk to **"Normal".** Use System Programs **[414]** (Day Mode), **[415]** (Night Mode), and **[416]** (Lunch Mode) to set this parameter.

c) If the VPS is only answering calls not answered by user extensions:

Flexible Ringing Assignment—For each trunk, use System Programs **[408]** (Day Mode), **[409]** (Night Mode), and **[410]** (Lunch Mode) to enable ringing on every extension (jack) that you want to have ring.
Delayed Ringing Assignment—To give users time to answer the call before the VPS picks up, we recommend setting the delay to a few seconds for each extension connected to the VPS. Set a different delay time for each extension connected to the VPS. Use System Programs **[411]** (Day Mode), **[412]** (Night Mode), and **[413]** (Lunch Mode).
Trunk Mode—Set the mode for each trunk to **"Normal".** Use System Programs **[414]** (Day Mode), **[415]** (Night Mode), and **[416]** (Lunch Mode) to set this parameter.



Section 6

Customising the System

This section explains how to configure commonly used features of the VPS using KX-TVM Maintenance Console.

6.1 Starting Up

6.1.1 Before Programming

Careful preparation before you begin programming the VPS will make the programming and customisation process easier for you and the customer.

1. Determine the customer's needs.
   - Work with the owner/supervisor and Message Manager to build the Custom Service Greetings, Holiday Greetings, etc.
   - Decide which ports/trunks should be answered by which greetings.
   - Confirm the software level of the PBX to make sure it is compatible with the features the customer wishes to use.
2. While programming the VPS with KX-TVM Maintenance Console, make sure subscribers do not change any of their mailbox settings, otherwise programmed settings may not be saved properly.
3. Work with the Message Manager (perhaps a receptionist or supervisor) to make sure he or she understands the system as well as his or her responsibilities as the Message Manager. This will save you time in the long run.
   - Show the Message Manager how to record system greetings. Refer to 3.2.6 Recording Messages in the Feature Manual.
   - Show the Message Manager how to transfer General Delivery Mailbox messages. Refer to 3.2.2 Managing the General Delivery Mailbox in the Feature Manual.

6.1.2 Quick Setup

The Quick Setup utility allows you to set essential VPS parameters quickly and easily. It is particularly useful when configuring the VPS for the first time or after initialising the VPS.

The following settings can be programmed with the Quick Setup utility:

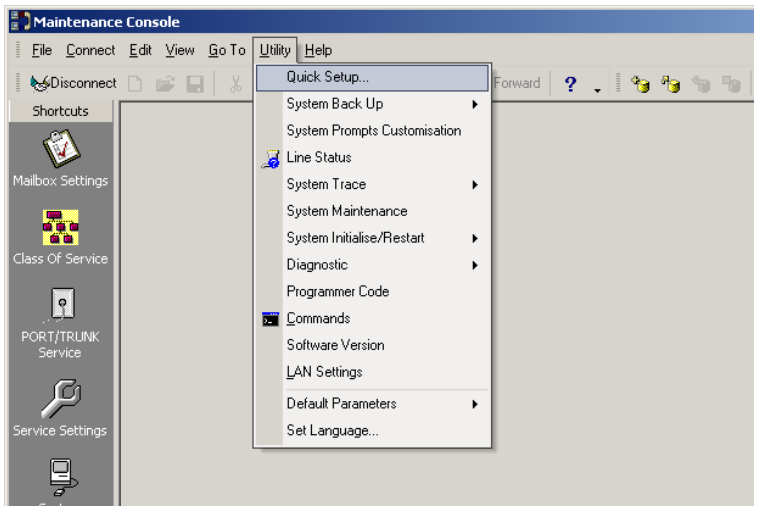
- System Security settings
- PBX Environment settings
- Mailbox settings
- Port/Trunk settings
- Date and Time setting

Note

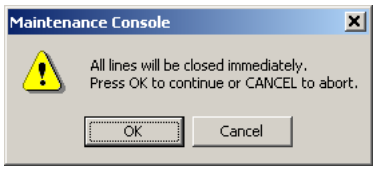
- Set the desired parameters in each screen then click "Next" or "Back" to go to the desired screen.
- Each screen of the Quick Setup utility must be completed in order for the settings to take effect.
- The screen shots in this section are examples of the KX-TVM200.
- Settings shown in the screen shots in this section are examples only and may vary depending on the type or settings of the connected PBX, the software version, etc.

Starting Quick Setup

1. Start KX-TVM Maintenance Console and connect to the VPS (refer to 3.3 Starting KX-TVM Maintenance Console).
2. Click "Utility → Quick Setup…" in the menu bar.



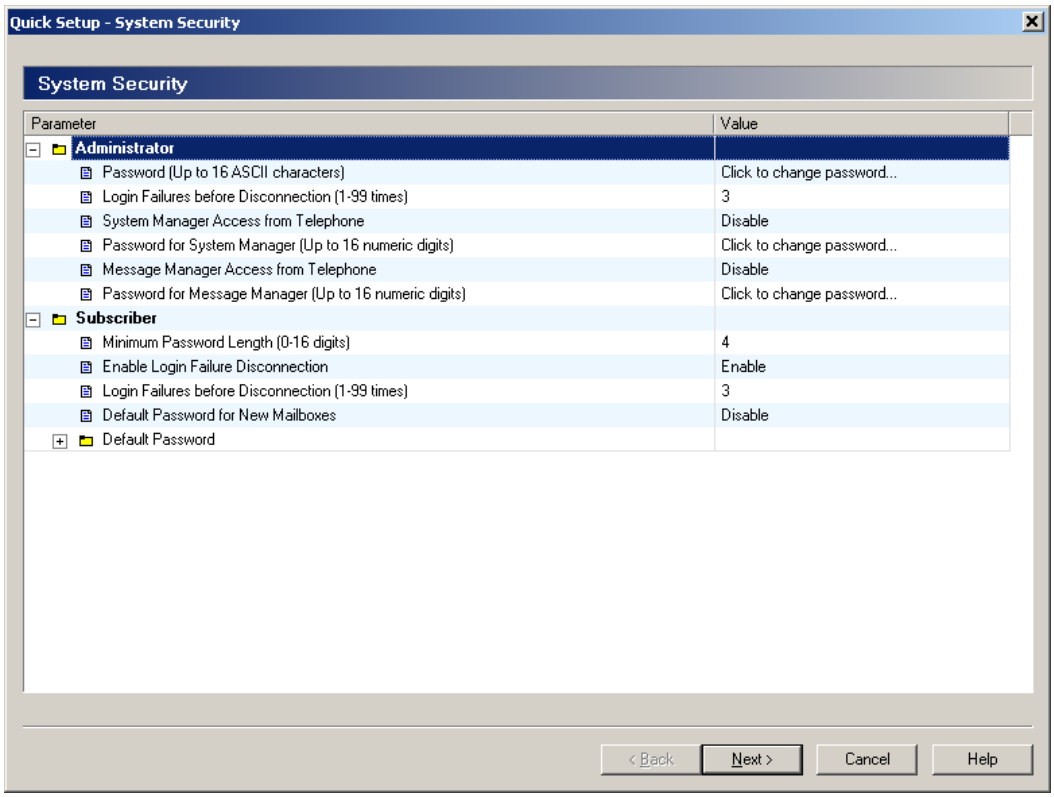
3. Click "OK" when the message is displayed.



Using Quick Setup

System Security settings

After you click "Quick Setup", the System Security window appears.



In this window, you can change the Administrator, System Manager, and Message Manager passwords, as well as other security-related settings. For more information, refer to 2.8 System Security in the Programming Manual.

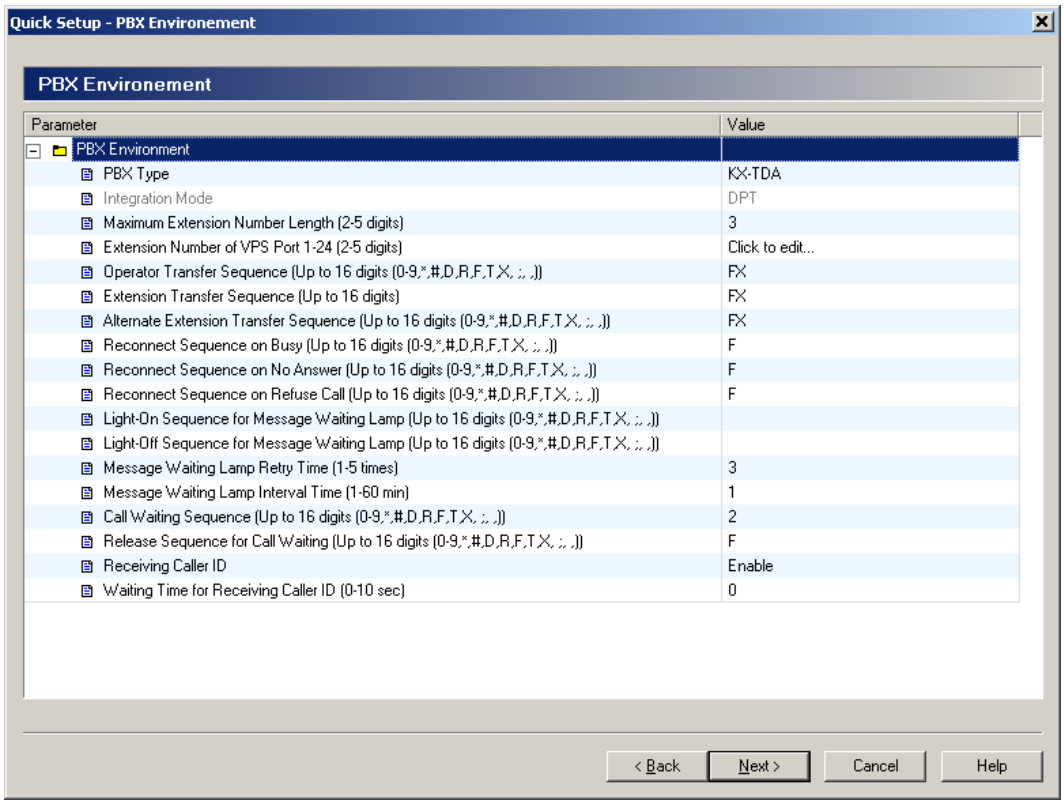
Edit each parameter as needed, then click "Next".

IMPORTANT

- **To prevent unauthorised access, we strongly recommend selecting a long and random password.**
- **Do not carelessly reveal the password to other persons.**
- **Please change the password periodically.**

PBX Environment settings

The next window displayed is the PBX Environment window.

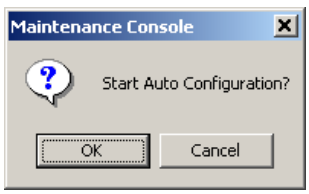

Quick Setup - PBX Environement
PBX Environement
Parameter
Value
PBX Environment
PBX Type
KX-TDA
Integration Mode
DPT
Maximum Extension Number Length (2-5 digits)
3
Extension Number of VPS Port 1-24 (2-5 digits)
Click to edit...
Operator Transfer Sequence (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
FX
Extension Transfer Sequence (Up to 16 digits)
FX
Alternate Extension Transfer Sequence (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
FX
Reconnect Sequence on Busy (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
F
Reconnect Sequence on No Answer (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
F
Reconnect Sequence on Refuse Call (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
F
Light-On Sequence for Message Waiting Lamp (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
Light-Off Sequence for Message Waiting Lamp (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
Message Waiting Lamp Retry Time (1-5 times)
3
Message Waiting Lamp Interval Time (1-60 min)
1
Call Waiting Sequence (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
2
Release Sequence for Call Waiting (Up to 16 digits (0-9,*,#,D,R,F,T,X, ;, ,))
F
Receiving Caller ID
Enable
Waiting Time for Receiving Caller ID (0-10 sec)
0
< Back
Next >
Cancel
Help

In this window, you can select the PBX Type, Integration Mode (KX-TVM50 only), and set other parameters essential for proper integration between the PBX and VPS. For more information, refer to "PBX Environment" in 2.5.4 Parameters in the Programming Manual.

Note

- The VPS will set the appropriate parameters to match the default settings of the PBX you select as the PBX Type.

Edit each parameter as needed, then click "Next". You will be asked whether you want to start Auto Configuration.

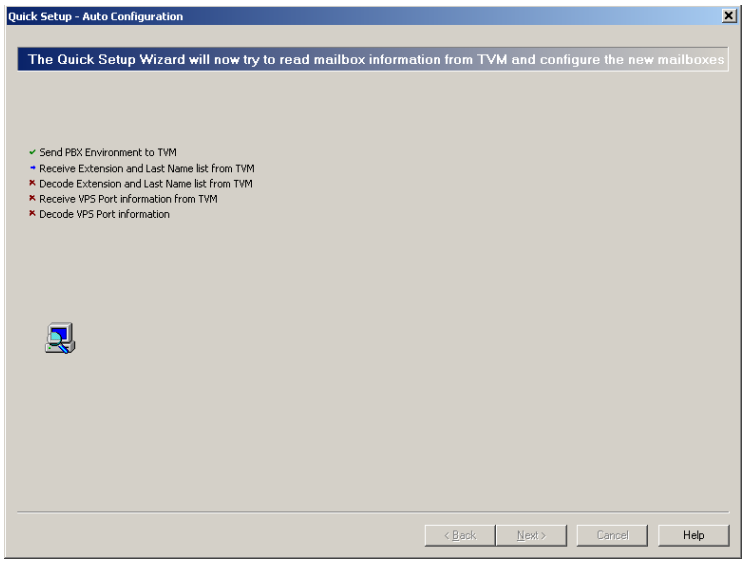


Click "OK" to start Auto Configuration (then continue from "If Auto Configuration is started" in this section) or "Cancel" to skip Auto Configuration (then continue from "If Auto Configuration is skipped" later in this section).

If Auto Configuration is started

Auto Configuration (available for APT/DPT Integration only) allows the PBX and VPS to exchange information and make the setup process easier. If you cannot use Auto Configuration or skip Auto Configuration, continue from "If Auto Configuration is skipped" later in this section.

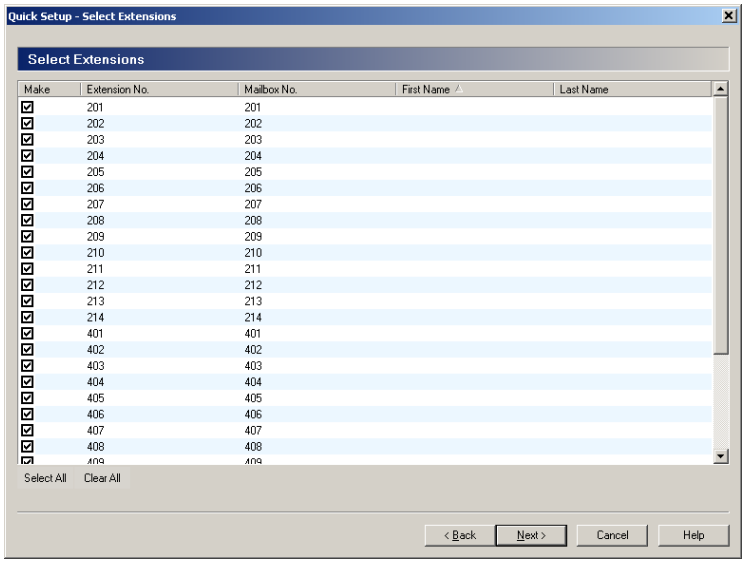
If you start Auto Configuration, the following screen will be displayed while data is exchanged between the PBX and VPS.


Quick Setup - Auto Configuration
The Quick Setup Wizard will now try to read mailbox information from TVM and configure the new mailboxes
Send PBX Environment to TVM
Receive Extension and Last Name list from TVM
Decode Extension and Last Name list from TVM
Receive VPS Port information from TVM
Decode VPS Port information
< Back
Next >
Cancel
Help

Click "Next" when the button becomes available.

Create mailboxes

The next window displayed is the Select Extensions window. Extension data retrieved from the PBX is displayed.



Select the extensions for which you would like to create mailboxes, then click "Next".

Note

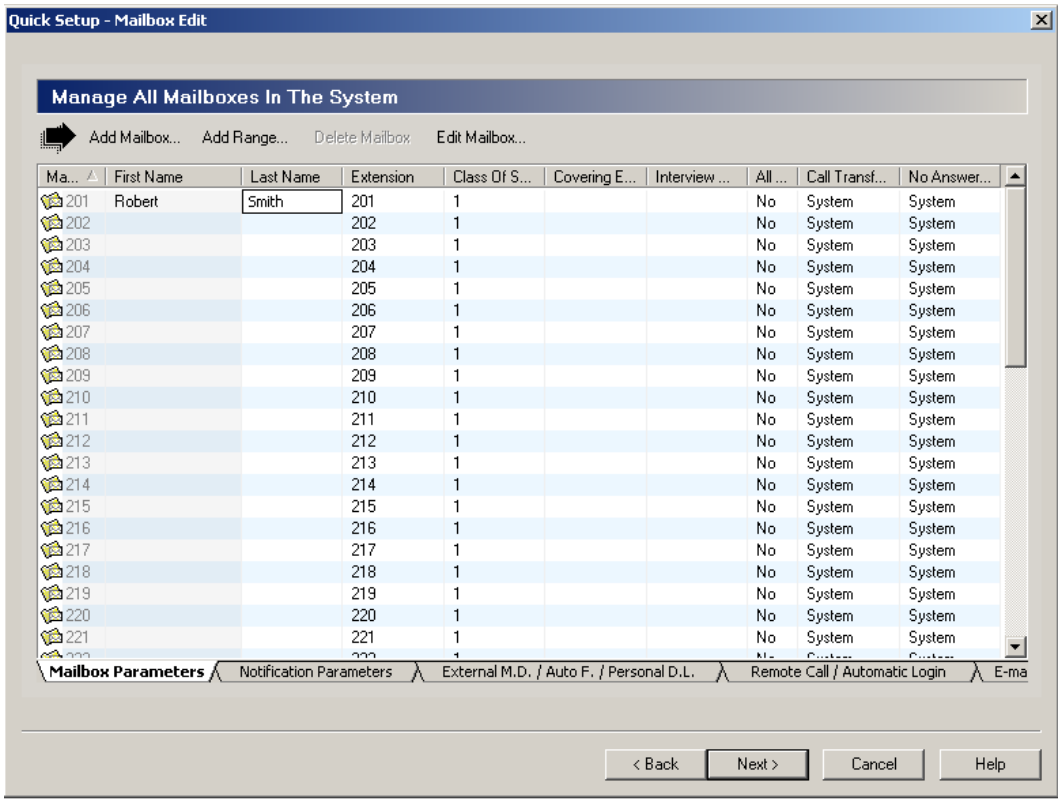
- Each extension name retrieved from the PBX is stored in the "Last Name" field of the respective subscriber's Mailbox Settings. Extension names can be retrieved from the following PBXs:
  KX-TDA series PBXs (version 2.21 or higher)
  KX-TD500 with software production date code 040901 or later. (KX-TD500C: Q951AB or higher, KX-TD500RU: Q971AB or higher, all other: Q271AD or higher)
- Mailboxes will be created during Auto Configuration. The number of digits used for mailbox numbers is 2 to 5 digits, depending on PBX programming.
  The Message Manager mailbox (General Delivery Mailbox) number will be 98, 998, 9998, or 99998.
  The System Manager mailbox number will be 99, 999, 9999, or 99999.
  If both 3-digit and 4-digit extension numbers are used by the PBX, the VPS will use 4-digit mailbox numbers. When creating mailbox numbers for 3-digit extensions, a "0" will be added to the end of each mailbox number.

  Example:

Extension Numbers	Mailbox Numbers
201	2010
202	2020
203	2030
2000	2000
2001	2001
2002	2002

Mailbox settings

The next window displayed is the Mailbox Edit window.


Quick Setup - Mailbox Edit
Manage All Mailboxes In The System
Add Mailbox...
Add Range...
Delete Mailbox
Edit Mailbox...
Ma... | First Name | Last Name | Extension | Class Of S... | Covering E... | Interview ... | All ... | Call Transf... | No Answer...
201 | Robert | Smith | 201 | 1 | No | System | System
202 | 202 | 1 | No | System | System
203 | 203 | 1 | No | System | System
204 | 204 | 1 | No | System | System
205 | 205 | 1 | No | System | System
206 | 206 | 1 | No | System | System
207 | 207 | 1 | No | System | System
208 | 208 | 1 | No | System | System
209 | 209 | 1 | No | System | System
210 | 210 | 1 | No | System | System
211 | 211 | 1 | No | System | System
212 | 212 | 1 | No | System | System
213 | 213 | 1 | No | System | System
214 | 214 | 1 | No | System | System
215 | 215 | 1 | No | System | System
216 | 216 | 1 | No | System | System
217 | 217 | 1 | No | System | System
218 | 218 | 1 | No | System | System
219 | 219 | 1 | No | System | System
220 | 220 | 1 | No | System | System
221 | 221 | 1 | No | System | System
Mailbox Parameters
Notification Parameters
External M.D. / Auto F. / Personal D.L.
Remote Call / Automatic Login
E-ma
< Back
Next >
Cancel
Help

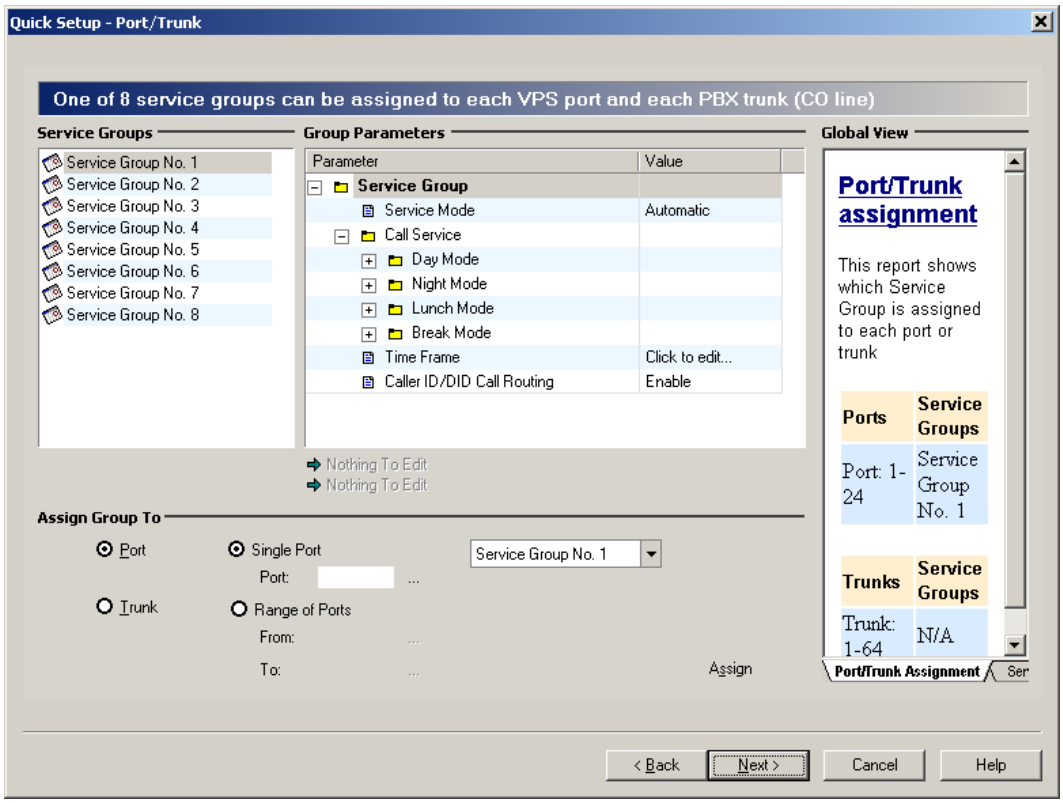
Edit, delete, or add mailboxes as needed, then click "Next". For more information, refer to 2.1.3 Mailbox Parameters in the Programming Manual.

Note

- The Mailbox Edit window allows you to set basic mailbox parameters only. Detailed mailbox settings can be made after Quick Setup has finished, by clicking on the "Mailbox Settings" icon under "Shortcuts".

Port/Trunk settings

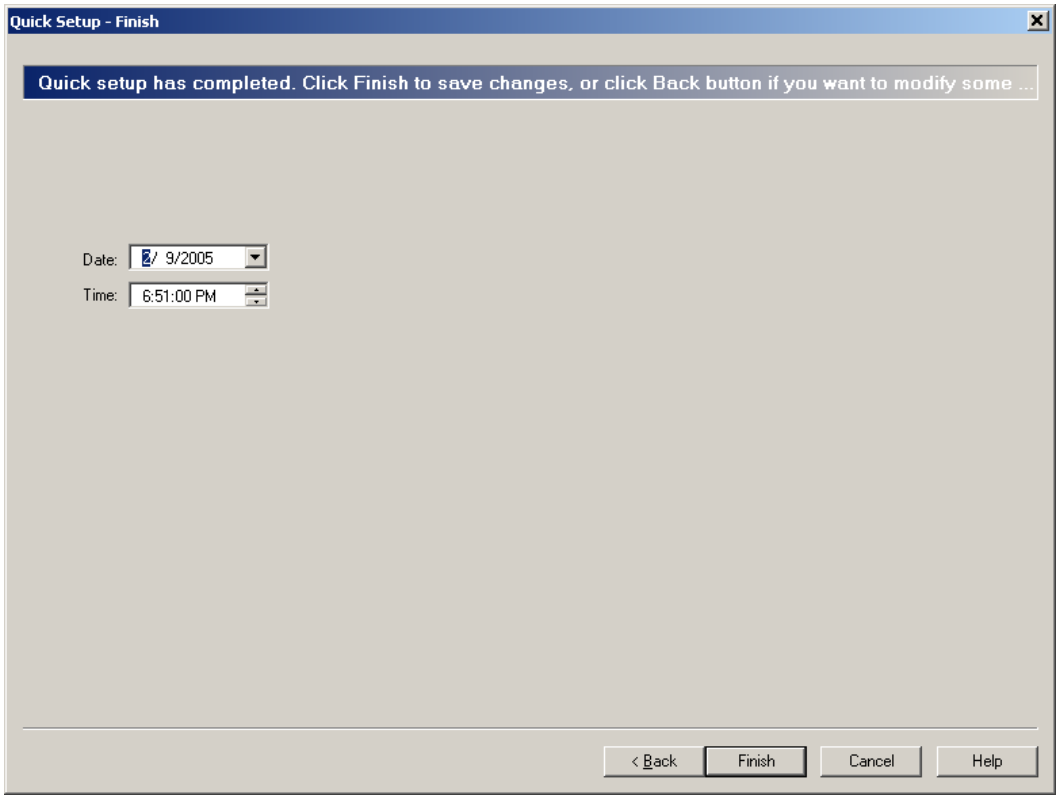
The next window displayed is the Port/Trunk window.



Configure Service Groups for each trunk/port, then click "Next". For more information, refer to 2.3.1 Service Group in the Programming Manual.

Date and Time setting

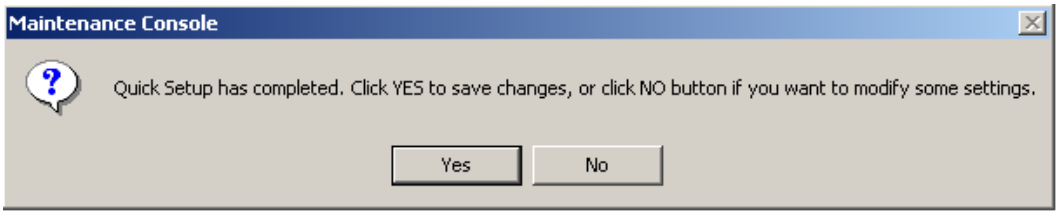
The last window displayed is the date and time setting window.



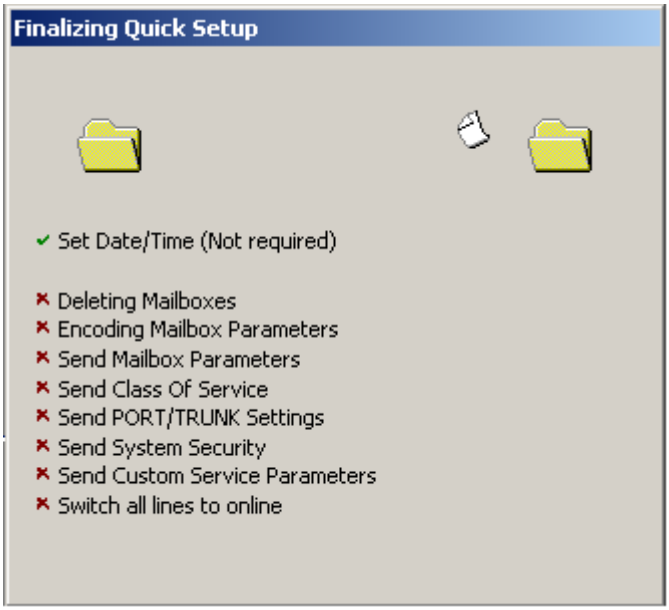
Set the date and time, then click "Finish".

Finalising Quick Setup

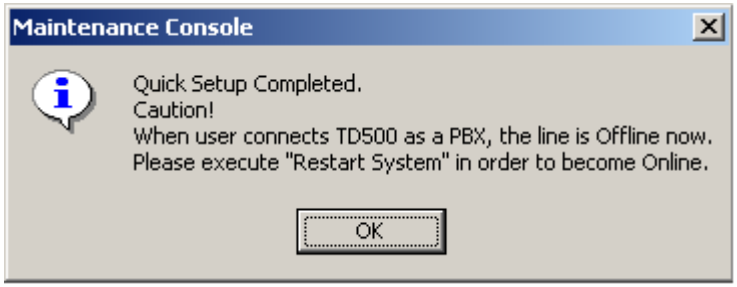
Click "Yes" to save the settings and finish Quick Setup. If you click "No", your settings will not be saved and you will return to the previous screen.


Maintenance Console
Quick Setup has completed. Click YES to save changes, or click NO button if you want to modify some settings.
Yes
No

If you clicked "Yes", the following screen is displayed as your settings are saved.



When Quick Setup is completed, the following screen will be displayed.


Maintenance Console
Quick Setup Completed.
Caution!
When user connects TD500 as a PBX, the line is Offline now.
Please execute "Restart System" in order to become Online.
OK

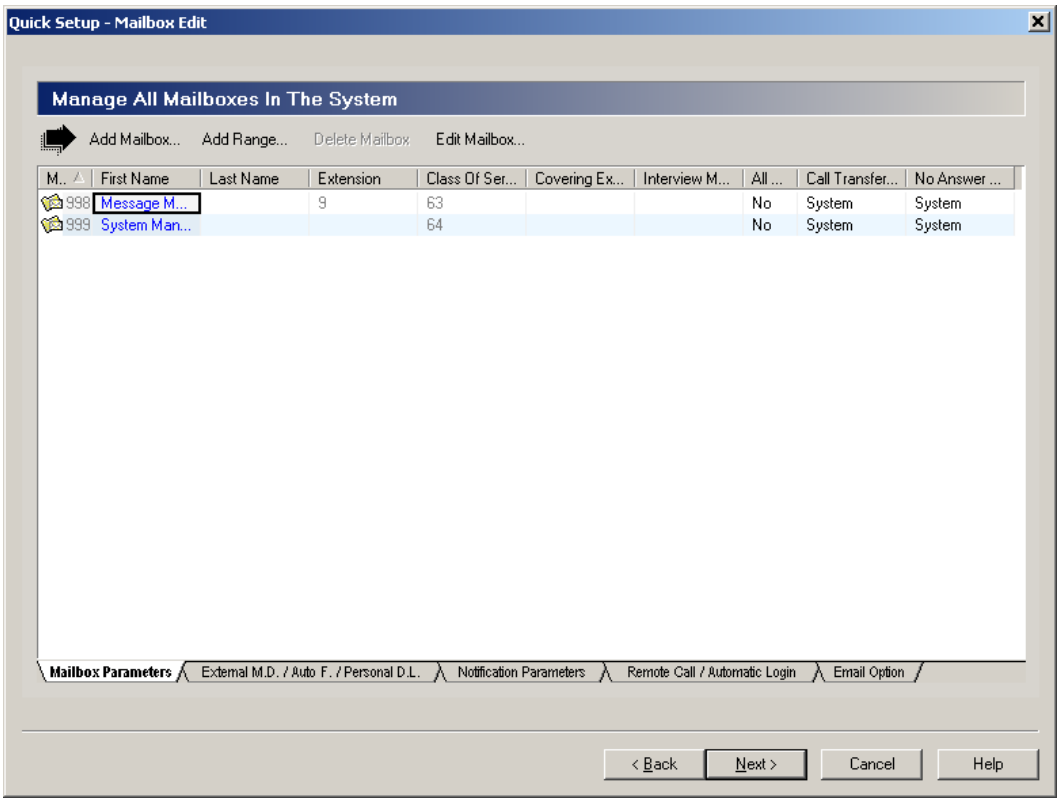
Note

- If the VPS is connected to a KX-TD500, restart the VPS to bring the VPS online.

If Auto Configuration is skipped

Mailbox settings

If you skip Auto Configuration, the next window displayed is the Mailbox Edit window.



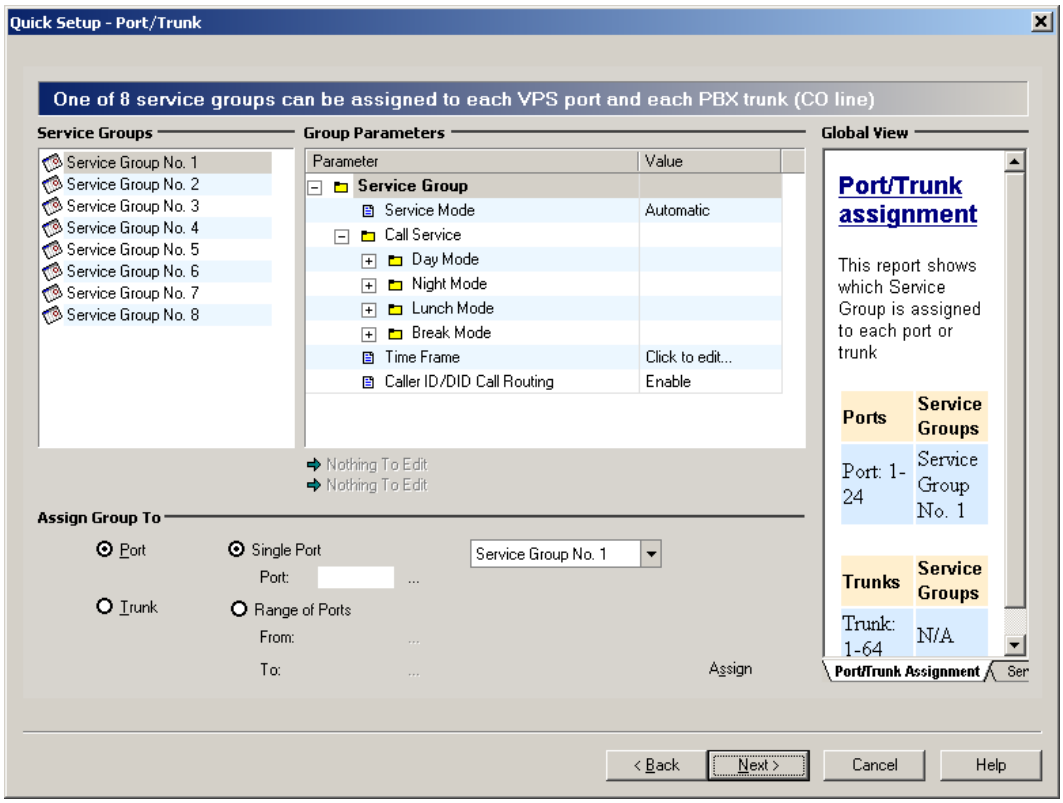
Edit, delete, or add mailboxes as needed, then click "Next". For more information, refer to 2.1.3 Mailbox Parameters in the Programming Manual.

Note

- The Mailbox Edit window allows you to set basic mailbox parameters only. Detailed mailbox settings can be made after Quick Setup has finished, by clicking on the "Mailbox Settings" icon under "Shortcuts".

Port/Trunk settings

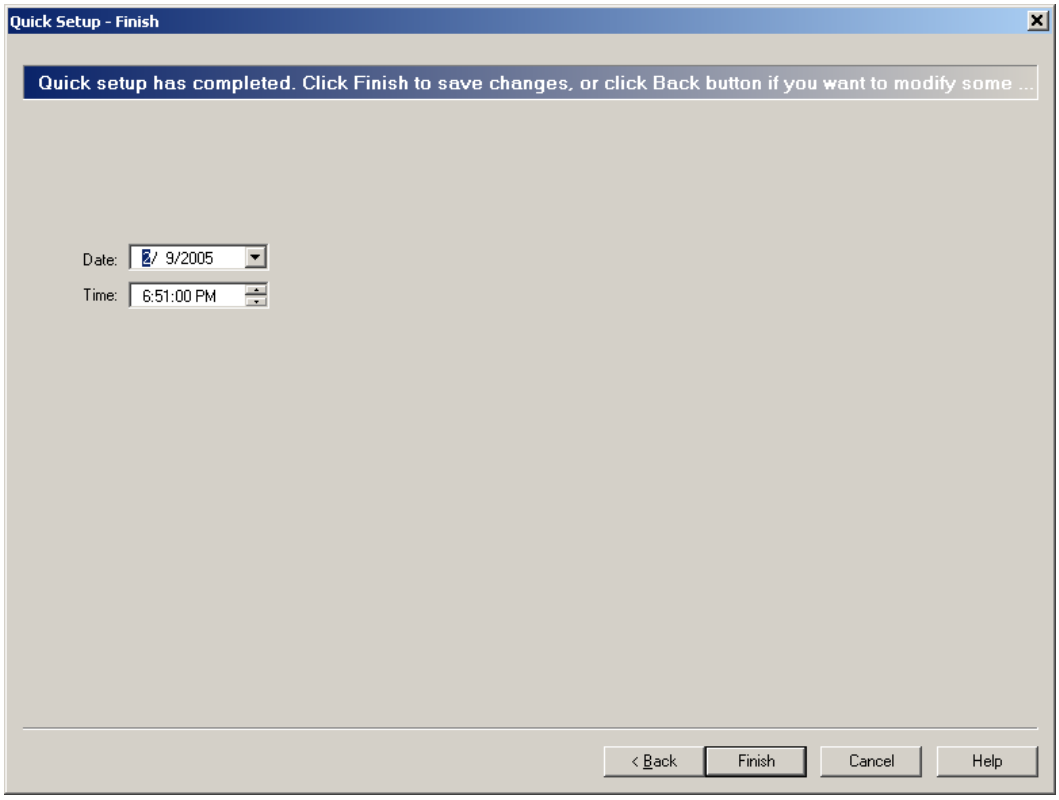
The next window displayed is the Port/Trunk window.



Configure Service Groups for each trunk/port, then click "Next". For more information, refer to 2.3.1 Service Group in the Programming Manual.

Date and Time setting

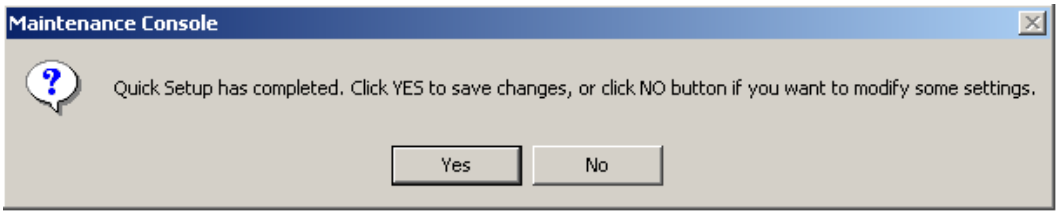
The last window displayed is the date and time setting window.



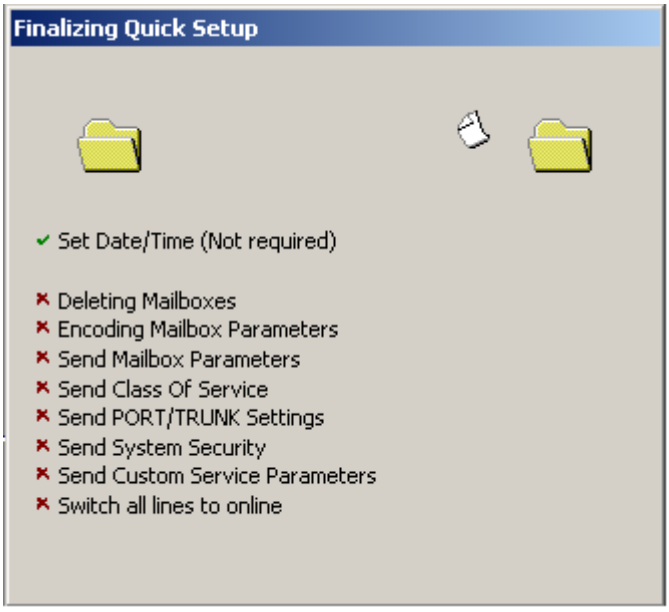
Set the date and time, then click "Finish".

Finalising Quick Setup

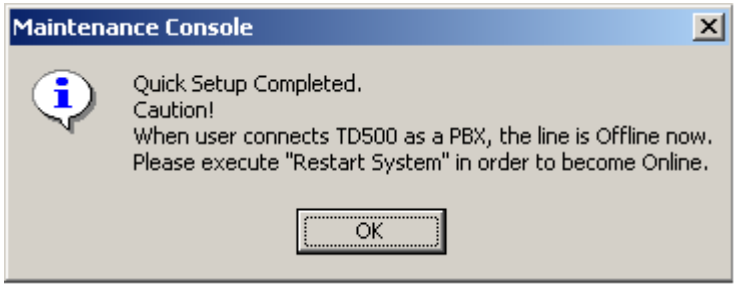
Click "Yes" to save the settings and finish Quick Setup. If you click "No", your settings will not be saved and you will return to the previous screen.


Maintenance Console
Quick Setup has completed. Click YES to save changes, or click NO button if you want to modify some settings.
Yes
No

If you clicked "Yes", the following screen is displayed as your settings are saved.



When Quick Setup is completed, the following screen will be displayed.


Maintenance Console
Quick Setup Completed.
Caution!
When user connects TD500 as a PBX, the line is Offline now.
Please execute "Restart System" in order to become Online.
OK

Note

- If the VPS is connected to a KX-TD500, restart the VPS to bring the VPS online.

6.2 Port/Trunk Settings

Program the VPS according to the needs of your customer. You should be familiar with all options for port/trunk assignment so that customers get exactly what they need and expect.

Each port/trunk can be assigned to a different Incoming Call Service: Voice Mail service, Automated Attendant service, Custom Service, or Interview service. Custom Service is the most flexible of all the services because it allows access to the other services by pressing one key.

For caller convenience, we recommend programming all ports/trunks to use Custom Service as the Incoming Call Service (see 6.2.4 Custom Services).

6.2.1 Voice Mail Service

Voice Mail service is a message recording service that allows callers to leave messages for subscribers. They can dial mailbox numbers directly or "spell" the name of the desired party using the dial keys on their telephones. Once the caller has dialled an appropriate number, the VPS transfers the caller to the party.

Callers will reach Voice Mail service when:

a) The Incoming Call Service of a trunk or port's Call Service is set to "Voice Mail".

b) The Service of a Holiday Service is set to "Voice Mail".

c) They press [#6] (the Voice Mail Service Access Command) during a call.

d) A Custom Service or Personal Custom Service option is set to transfer callers to Voice Mail service.

e) An extension user transfers the caller to Voice Mail service.

6.2.2 Automated Attendant Service

Automated Attendant service allows callers to dial numbers in order to connect themselves with the desired party. They can dial extension numbers directly or "spell" the name of the desired party using the dial keys on their telephones. Once the caller has dialled an appropriate number, the VPS transfers the caller to the party.

Callers will reach Automated Attendant service when:

a) The Incoming Call Service of a trunk or port's Call Service is set to "Automated Attendant".

b) The Service of a Holiday Service is set to "Automated Attendant".

c) They press [#8] (Automated Attendant Service Access Command) during a call.

d) A Custom Service or Personal Custom Service option is set to transfer callers to Automated Attendant service.

e) An extension user transfers the caller to Automated Attendant service.

For more information, refer to "Automated Attendant" in 2.4.3 Parameters in the Programming Manual and the "Call Transfer No Answer Time" setting in 2.5.4 Parameters in the Programming Manual.

6.2.3 Interview Service

Interview service allows callers to record their answers to prerecorded questions. As the caller answers questions, they are recorded into an interview mailbox. After a caller records the answers, the interview mailbox lights a message waiting lamp on the interview mailbox owner's extension. When retrieving the messages, the subscriber only hears the answers to the questions.

In order to use Interview service, at least one interview mailbox must be created in the VPS. For more information on creating interview mailboxes, refer to 2.1.3 Mailbox Parameters in the Programming Manual.

Callers will reach an interview mailbox when:

a) The Incoming Call Service of a trunk or port's Call Service is set to "Interview".

b) The Service of a Holiday Service is set to "Interview".

c) A Custom Service or Personal Custom Service option is set to transfer callers to an interview mailbox.

d) Configure a mailbox so that unanswered calls are directed to the mailbox's interview mailbox via Incomplete Call Handling, and set Message Reception Mode to "Interview Mode".

e) Configure a logical extension so that calls are directed to the mailbox's interview mailbox by setting Message Reception Mode to "Interview Mode".

f) An extension user transfers the caller to an interview mailbox.

For more information on using an interview mailbox, refer to 5.4 Interview Mailbox in the Subscriber's Manual.

6.2.4 Custom Services

Custom Services allow you to design and record your own voice guidance menus and menu options that callers can operate when they call the VPS. Callers can be guided to extensions, outside destinations (including cell phones), fax machines, mailboxes, other Custom Services, etc. Each Custom Service can consist of several selections which callers can select using the dial buttons on their telephone dial keys (0 to 9, ✳, and #). In total, you can create 100 Custom Services. Voice guidance menus can be recorded by the System Administrator or the Message Manager.

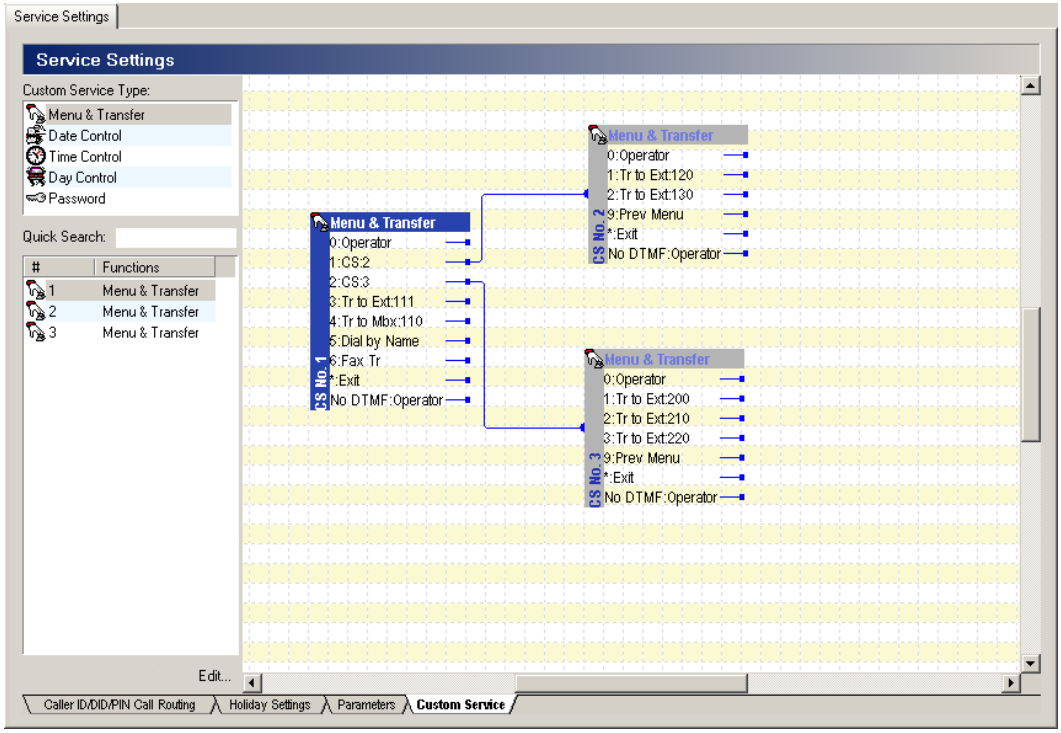
Calls can be handled by Custom Service by:

a) Setting the Incoming Call Service of a trunk or port's Call Service to "Custom Service" and specifying a Custom Service number.

b) Setting the Service of a Holiday Service to "Custom Service" and specifying a Custom Service number.

c) Custom Service/Personal Custom Service: A Custom Service can be assigned to one of the available options provided by another Custom Service or Personal Custom Service. After pressing the appropriate dial key, the caller is sent to assign Custom Service.

Custom Services can be created and edited using the Custom Service Builder utility of KX-TVM Maintenance Console. With Custom Service Builder, each Custom Service and its functions can be edited and arranged using a familiar drag-and-drop interface.



When creating a Custom Service, first create the options that determine what operations are available to callers. Next, record a prompt for the Custom Service. The prompt recorded for each Custom Service should include the instructions needed to guide callers to press buttons on their telephones.

Remember that it is possible and often necessary to have one Custom Service lead to another Custom Service. For example, if someone presses [1] for sales, you might want another menu to say "for new car sales, press [1]; for used car sales, press [2]". This way, callers are routed directly to the person best suited to handle them.

The VPS can provide guidance in several languages, useful if not all your callers speak the same language. You can easily accommodate several languages with Custom Service. For example, each key on the keypad (there are 12 keys) could be assigned to a language. Record the prompt for the first Custom Service presented to callers so that the caller can select a language with one-touch dialling. For example, "For English, press [1]. For French, press [2]. For Spanish, press [3]...", etc.

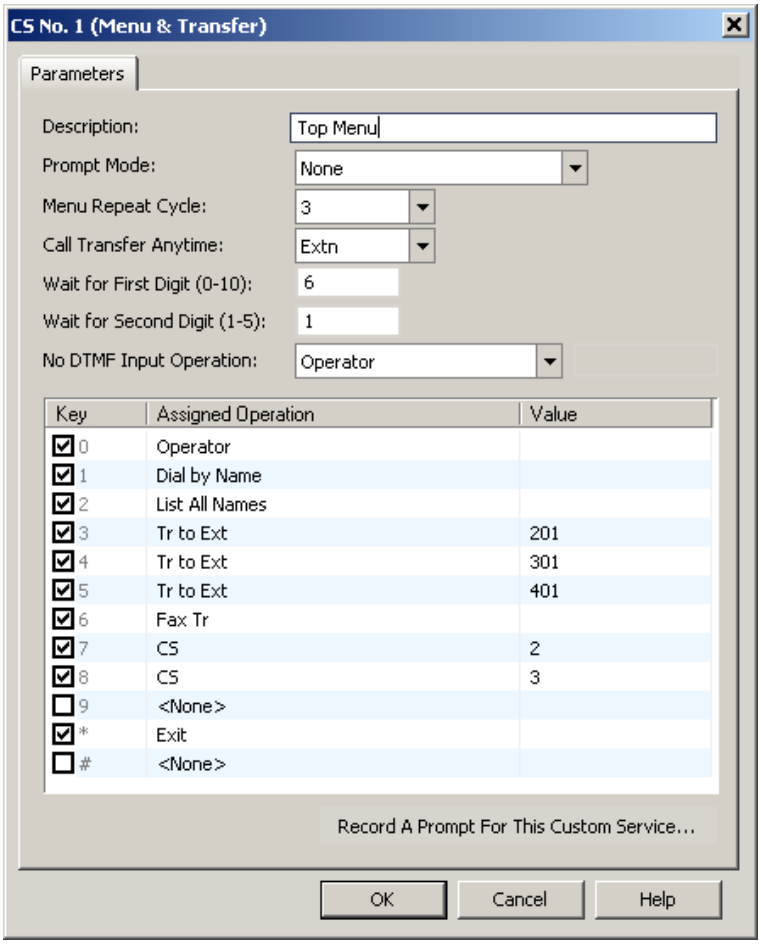
Another common Custom Service application is to program different Custom Services for different times of day. For example, the Custom Service used for Night Mode might be: "Sorry, we are closed for the day. Our regular business hours are from 9 am to 5 pm, Monday through Friday. If you would like to leave a message, press 1 now. If you would like to send a fax, press 2 now".

Programming Custom Services

There are 5 types of Custom Services:

- **Menu & Transfer**: Perhaps the most commonly used Custom Service type. Presents callers with a list of options that they can select by pressing the dial keys on their telephones.
- **Date Control**: Allows you to determine the way incoming calls will be handled on specific dates. All calls are handled in the same way; callers make no selections.
- **Time Control**: Allows you to determine the way incoming calls will be handled during specific times of day. All calls are handled in the same way; callers make no selections.
- **Day Control**: Allows you to determine the way incoming calls will be handled on specific days of the week. All calls are handled in the same way; callers make no selections.
- **Password**: Similar to Menu & Transfer except that callers enter specific passwords to access the available options. This allows you to control who can access the Custom Service.

Example of a Menu & Transfer Custom Service



Thank you for calling ABC Company.

Company Greeting is played.

If you know the extension number of the person you are calling, you can dial it at any time.

Call Transfer Anytime is set to "Extn."

To speak to the operator, press [0] or stay on the line.

0 = Transfer to Operator, No DTMF Input Operation is set to "Operator"

If you know the name of the person you are calling, press [1].

1 = Dial by Name

For a list of extensions, press [2].

2 = List All Names

For Sales, press [3]. For Service, press [4]. For Technical Support, press [5].

3, 4, 5 = Transfer to Extension

To send a fax, press [6].

6 = Fax Transfer

To select a product you would like more information about, press [7].

7 = Transfer to Custom Service

For more options, press [8].

8 = Transfer to Custom Service

Custom Service menus can be recorded by the System Administrator (refer to 1.8.3 Utility—System Prompts Customisation in the Programming Manual) or by the Message Manager (refer to 3.2.6 Recording Messages in the Feature Manual).

For more information on programming Custom Services, refer to 2.4.4 Custom Service in the Programming Manual.

Confirming Custom Service Programming

After you have programmed and recorded all necessary menus, it is important to test the Custom Services yourself to confirm that all functions perform properly. Dial into the VPS and try all the choices to see if you are routed correctly. Verify that each menu choice functions as it should.

6.2.5 Operator Service

Operator service allows callers to be connected to a live operator. The operator can then transfer the caller to the appropriate party or service as needed. Operator service can work in conjunction with other services, often providing a way for callers having difficulty using the VPS to receive assistance.

Up to 3 operators can be assigned for each time mode. Operator 1 in the day mode is automatically designated as the Message Manager and is assigned the extension number "0" or "9". This operator's mailbox is the General Delivery Mailbox. For KX-TDA series, KX-TD500, KX-TD816, KX-TD1232, and KX-TD612, Operators 2 and 3 can be assigned to a floating number that is assigned to a ring group (Incoming Call Distribution Group).

Calls can be directed to an operator when:

a) A caller does not or cannot send any DTMF signals to the VPS (i.e., the does not dial any digits or has a rotary telephone).

b) A caller dials "0" when the call is being handled by Automated Attendant service.

c) A Custom Service or Personal Custom Service is programmed to transfer callers to an operator. After pressing the appropriate dial key, the caller is directed to an operator.

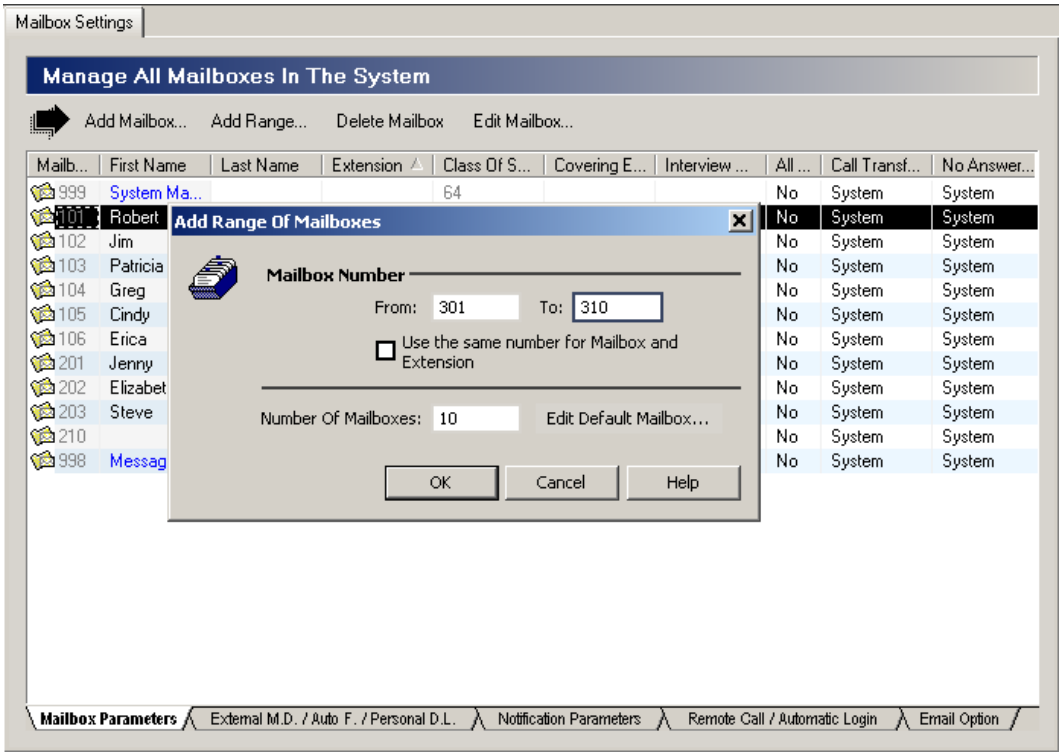
Operator Service offers callers many chances to reach a human operator. Operator Service can be structured as a cascade so that if Operator 1 cannot take the call, it goes to Operator 2. If that fails, the call goes to Operator 3. If that fails, the caller can record a message. At each stage, there are other options for busy cases and no-answer cases. Operator service can be programmed differently for day, night, lunch, and break modes. Each operator can be assigned a mailbox for message-taking.

For more information, refer to "Operator Service" in 2.4.3 Parameters in the Programming Manual.

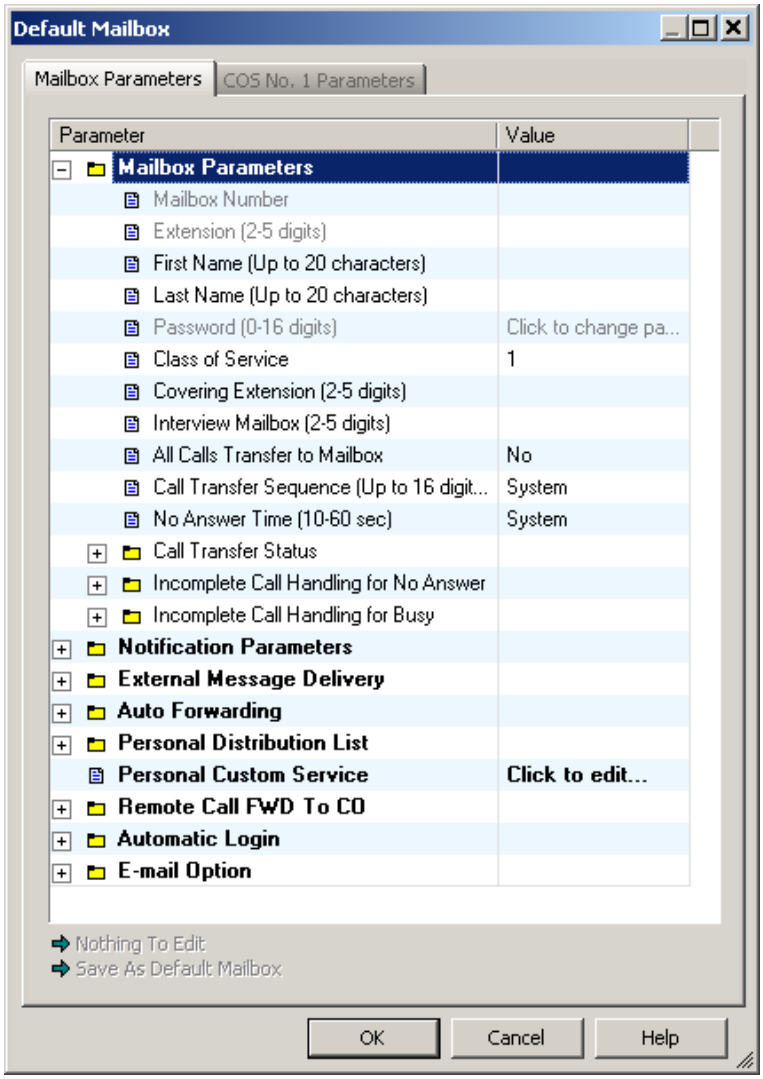
6.3 Setting Mailboxes and Groups

6.3.1 Creating the Default Mailbox Template

The Default Mailbox Template allows you to set several mailbox parameters in advance which will then be applied to mailboxes you create afterward using the "Add Range..." button. This feature can reduce the time needed to configure mailboxes. To edit the Default Mailbox Template, **click "Mailbox Settings→Mailbox Parameters→Add Range…"** and **enter the mailbox numbers** you wish to use for the start and end of the range of the new mailboxes. Tick "Use the same number for Mailbox and Extension" if necessary.



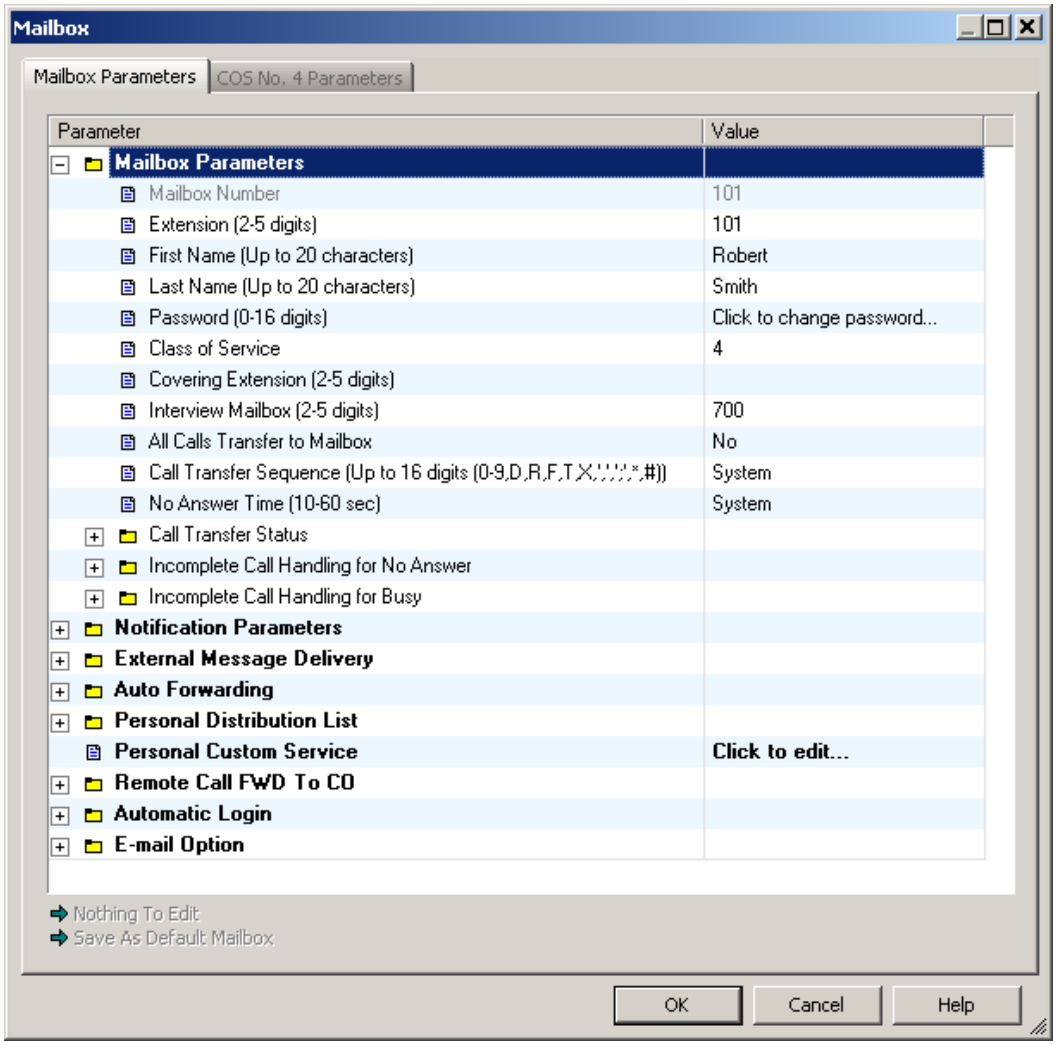
Then **click "Edit Default Mailbox…"**.



Here you can set basic mailbox parameters which will be applied to mailboxes created with the "Add Range..." button. Click "OK" in the Default Mailbox window, then click "OK" to create the mailboxes using the start and end range you've entered.

6.3.2 Editing a Mailbox

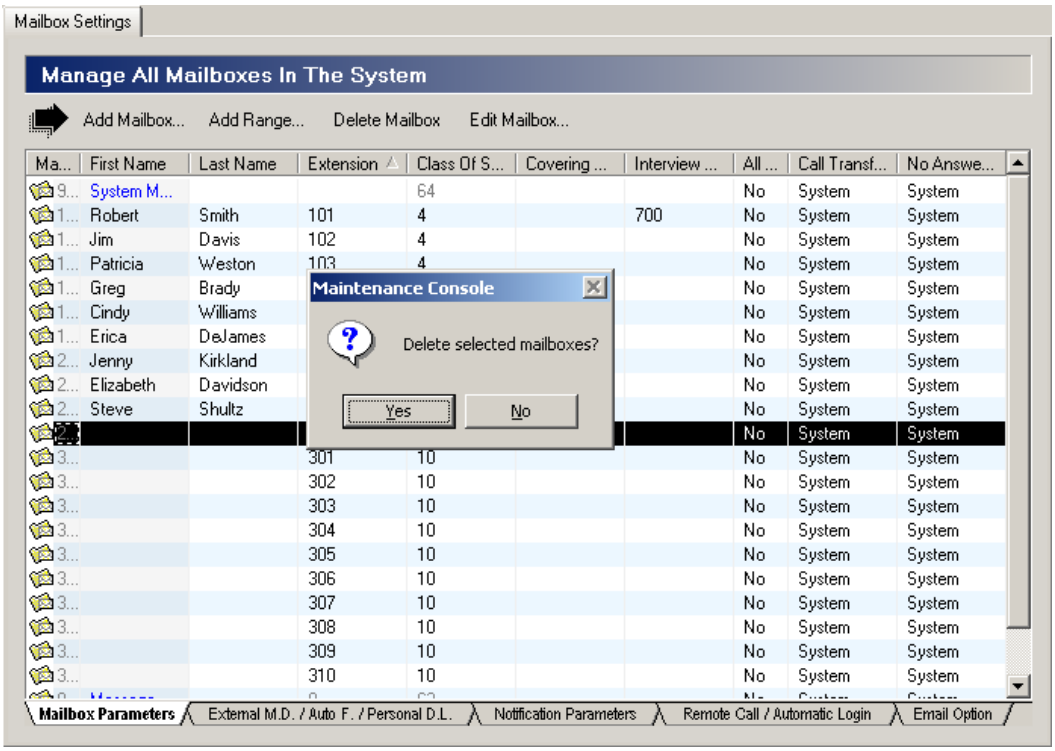
Click "Mailbox Settings→Mailbox Parameters→(select a mailbox you want to edit.)→Edit Mailbox...".



Edit the mailbox or its COS as needed, then click "OK". For more information, refer to 2.1.3 Mailbox Parameters in the Programming Manual.

6.3.3 Deleting a Mailbox

Click "Mailbox Settings→Mailbox Parameters→(select a mailbox you want to delete.)→Delete Mailbox".



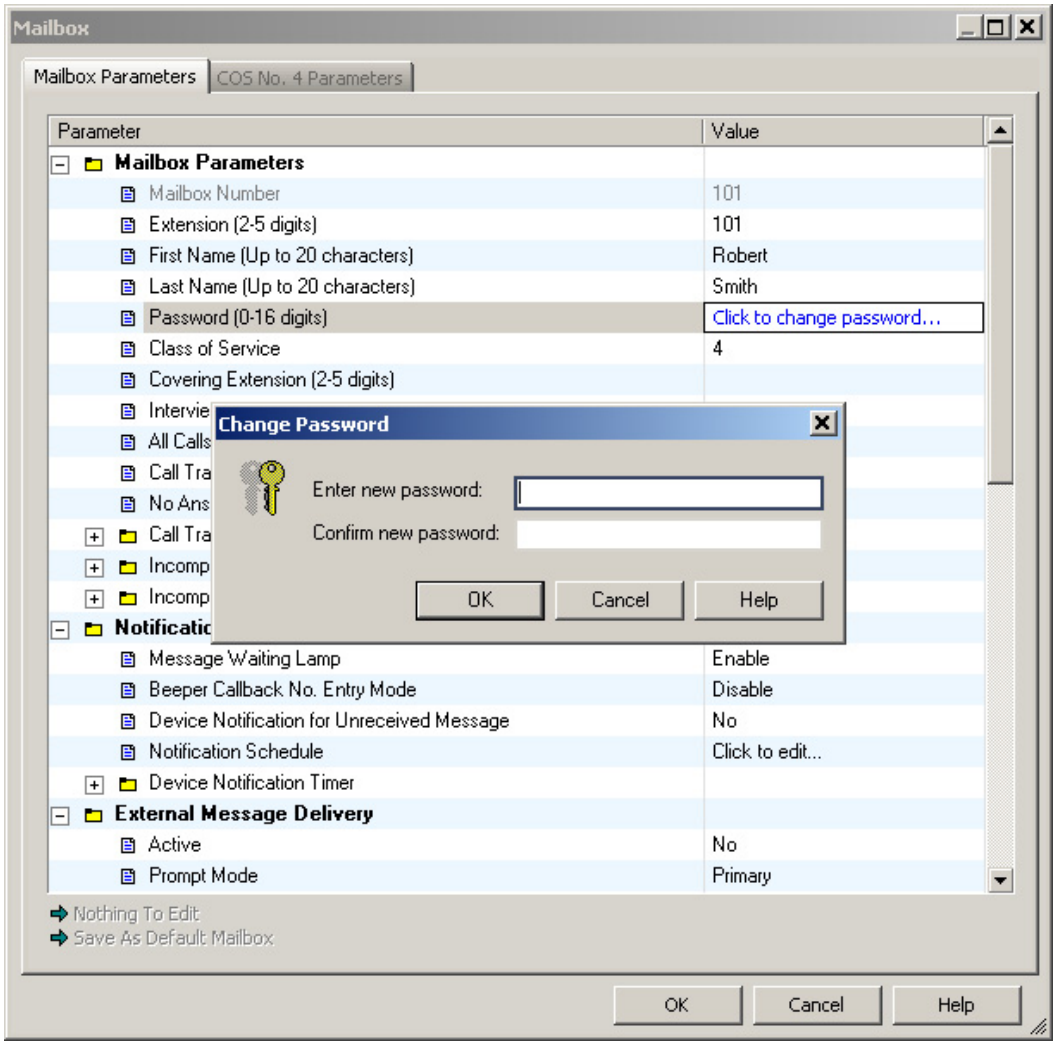
Click "Yes" to delete the mailbox.

6.3.4 Subscriber's Password Reset

You can change or delete a subscriber's password. If a subscriber forgets his or her password, you can follow these steps to delete the current password (after which the subscriber can set the password him or herself) or to set a new password.

The System Manager can also delete a subscriber's password.

1. **Click "Mailbox Settings→Mailbox Parameters→(select a mailbox)→Edit Mailbox".**
2. Click "Click to change password...".



3. Set the new password, or delete the current password.

To set the new password:

a) Enter the new password, then confirm the new password by re-entering it.

b) Click "OK", then click "OK" to close the Mailbox Parameters window.

To delete the current password:

a) Click "OK" without entering a password.

b) Click "Yes" when the warning is displayed, then click "OK" to close the Mailbox Parameters window.

6.3.5 Subscriber Tutorial

Subscribers can customise their mailboxes using their extension telephones as explained in the Subscriber's Manual.

The Subscriber Tutorial, if enabled through COS programming, can guide subscribers through the customisation process, allowing them to easily set their password, subscriber (owner) name, and personal greetings.

To enable or disable the Subscriber Tutorial, refer to "Tutorial" in 2.2.2 Personal Options in the Programming Manual.

For more information on using the Subscriber Tutorial, refer to 2.2 Subscriber Tutorial (Easy Mailbox Configuration) in the Subscriber's Manual.

6.3.6 Mailbox Groups

This program allows a message to be delivered to several mailboxes at once. The message activates the message waiting lamps on all of the proprietary telephones (PTs). These mailboxes may be assembled into a Mailbox Group. A name and voice label for each Mailbox Group can be recorded by the System Administrator using KX-TVM Maintenance Console or by the Message Manager using his or her telephone (see 3.2.6 Recording Messages in the Feature Manual). There are 20 group lists available, and each group list can have a maximum of 62 members for KX-TVM50 or 100 members for KX-TVM200.

For more information, refer to 2.5.1 Mailbox Group in the Programming Manual.

6.3.7 Extension Groups

An extension group places several extensions into the same mailbox. These extensions may be assembled into a list called an Extension Group List. When a message is left in this mailbox, it lights all of the message waiting lamps of the telephones that are in this group list. Extension groups function well in areas where the call would not be intended for a specific person (such as a Parts Centre, Technical Support Group, etc.).

There are 20 group lists available, and each group list can have a maximum of 100 entries.

For more information, refer to 2.5.2 Extension Group in the Programming Manual.

6.4 Recording Prompts

System prompts can be customised, and certain system prompts, such as Company Greetings and Custom Service menus, must be customised in order to use the VPS effectively.

The System Administrator can record prompts using an extension telephone and KX-TVM Maintenance Console. KX-TVM Maintenance Console can also be used to import pre-recorded audio files to be used as system prompts. For more information, refer to 1.8.3 Utility—System Prompts Customisation in the Programming Manual.

The Message Manager can record prompts using his or her extension telephone. For more information, refer to 3.2.6 Recording Messages in the Feature Manual.

6.5 Training the Subscriber

The System Administrator should explain the basic functions of the VPS to all subscribers. The System Administrator should explain which service (Voice Mail Service, Automated Attendant Service, Interview Service, or a Custom Service) will play during the day, and what services will play during night, lunch, and breaks. The System Administrator should explain that trunk callers are called "non-subscribers" because they do not have mailboxes. VPS guidance prompts will assist non-subscribers in reaching the extension or mailbox they wish to reach. The System Administrator should explain the responsibilities of the System Administrator, the Message Manager, and the System Manager—and how each can be contacted (telephone number and/or mailbox number).

The System Administrator should also explain the special privileges of VPS subscribers. Subscribers can call from any touchtone telephone in the world and get their messages. To check messages (or change mailbox parameters) from an outside telephone, do the following:

As soon as the VPS plays a guidance message, **press** code **[# 6 ✳]** and then **the mailbox number**. For example, a subscriber who has extension 1015 and mailbox 1015 would press code [# 6 ✳ 1015]. If the subscriber has a password enabled, the password must be entered.

With Toll Saver enabled, the subscriber can call the VPS from anywhere in the world and find out if there are any new messages in his or her mailbox without incurring telephone charges. (Note however that Toll Saver features are available only with certain integration types. For more information, refer to 4.1.3 APT/DPT Integration Features.)

If the subscriber forgets his or her password, the System Administrator or the System Manager can clear the password so that the subscriber can establish a new password.

Explain the purpose of the General Delivery Mailbox. The Message Manager will periodically check it, and forward the contents to the appropriate subscriber.

Explain the purpose of Mailbox Groups. They can be created by the System Administrator to facilitate the distribution of messages to several subscribers. In particular, senior staff members ought to know how to take advantage of Mailbox Groups. 20 lists can be created, with up to 62 mailboxes (KX-TVM50) or up to 100 mailboxes (KX-TVM200) in each list.

Finally, if Custom Service menus are used, subscribers should be encouraged to listen to these menus often and make suggestions for improvement. Custom Service is a very powerful feature of the Panasonic VPS. Make the most out of this feature.

Section 7

System Maintenance and Troubleshooting

This section describes the recommended system maintenance procedures and how to troubleshoot programming-related issues.

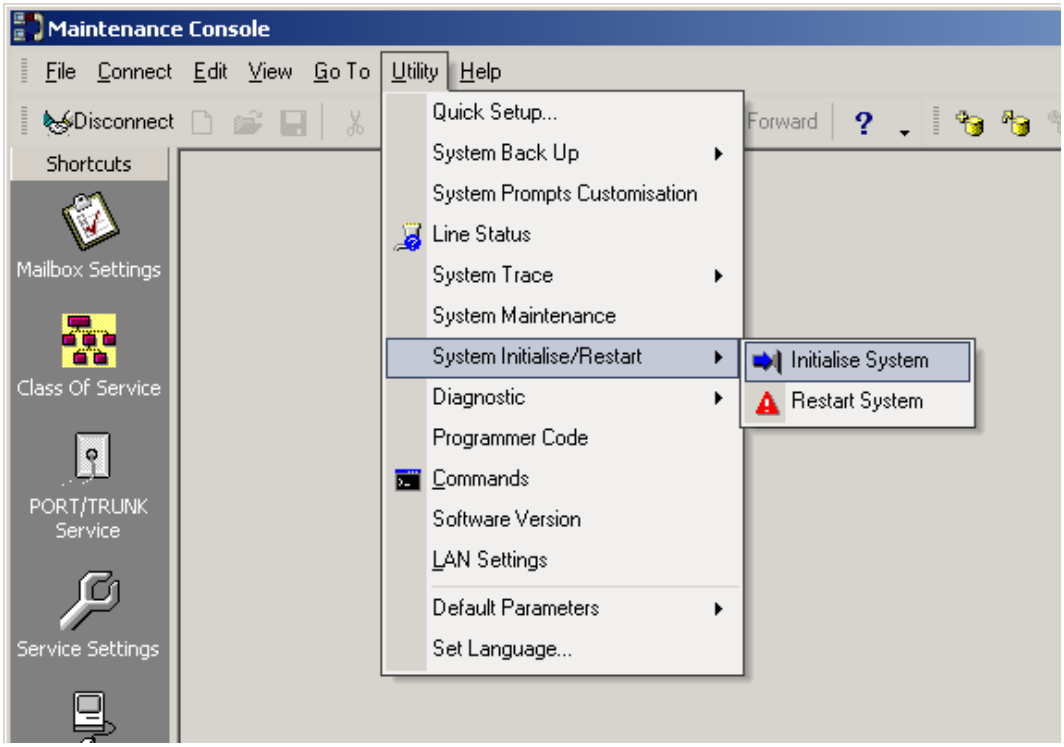
7.1 Initialising the VPS

Initialising the VPS erases recorded messages and resets all settings to their default values. (System prompts, including customised prompts, are preserved.)

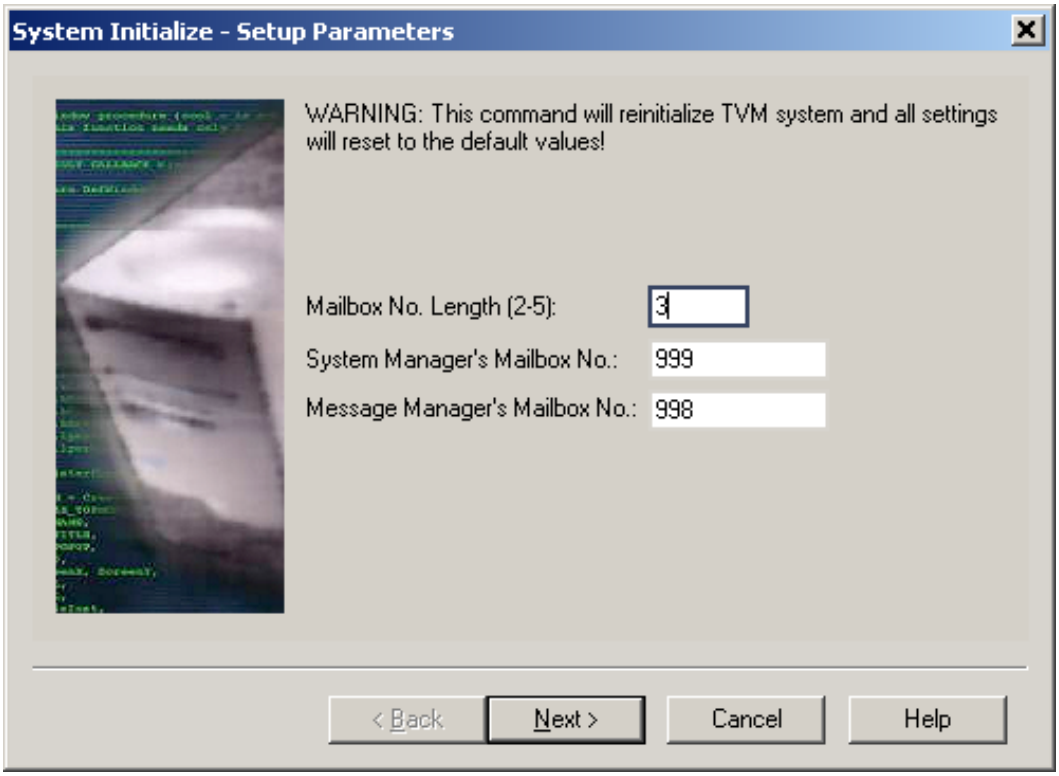
There are 2 methods to initialise the VPS: through KX-TVM Maintenance Console, and using the Mode Switch.

Initialising the VPS with KX-TVM Maintenance Console

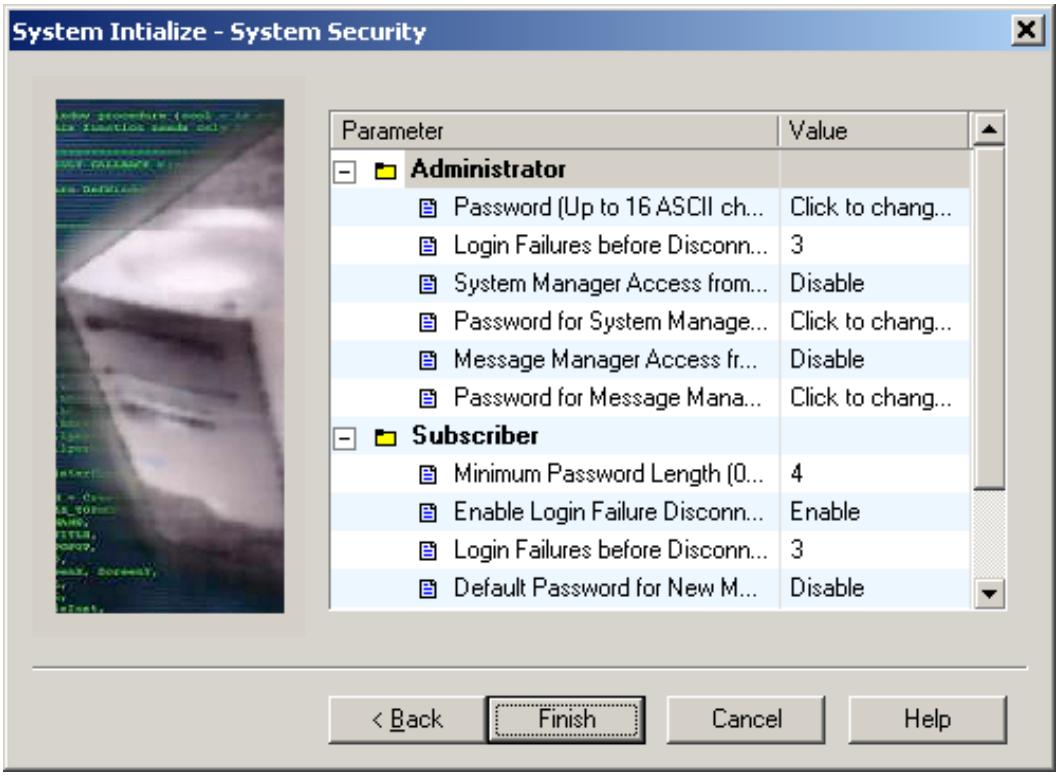
1. **Click "Utility→System Initialise/Restart→Initialise System".**



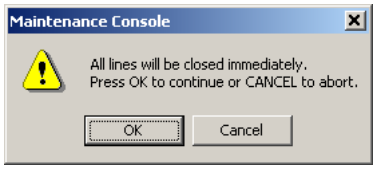
2. **Specify "Mailbox No. Length (2–5 digits)"**, **"System Manager's Mailbox No."** and **"Message Manager's Mailbox No."**.



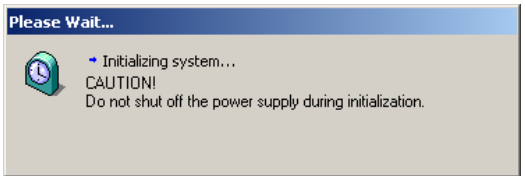
3. **Click "Next"**.



4. Set the System Security parameters as necessary.
5. **Click "Finish"**.
6. Click "OK" to close all lines and continue with initialisation.



7. The initialisation process begins.



8. Click "OK" when system initialisation is complete.

Initialising the VPS with the Mode Switch

1. Disconnect the port cables from the VPS.
2. Turn the power switch off at the VPS.
3. Set the Mode Switch to position 5.

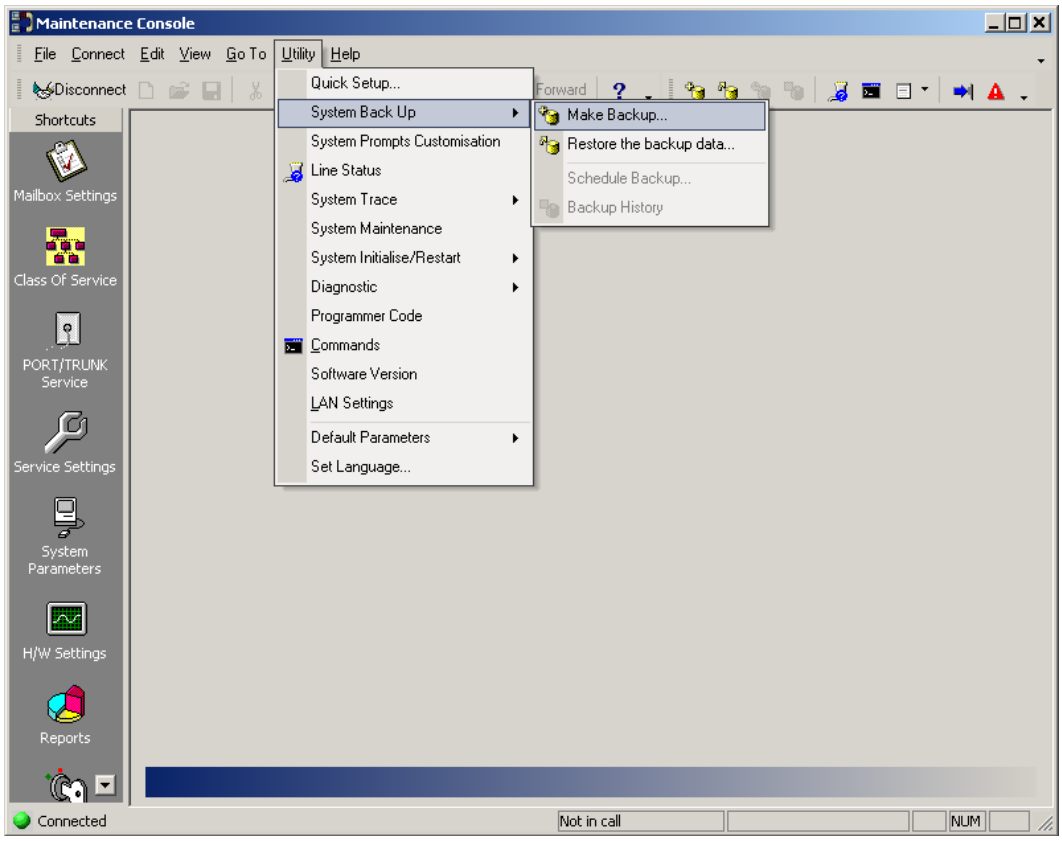
4. Turn the power switch back on at the VPS.
5. Connect the port cables.
6. Confirm that the Run Indicator blinks 5 times.
7. Turn the power switch off at the VPS.
8. Set the Mode Switch to position 0.
9. Turn the power switch back on at the VPS.

Note

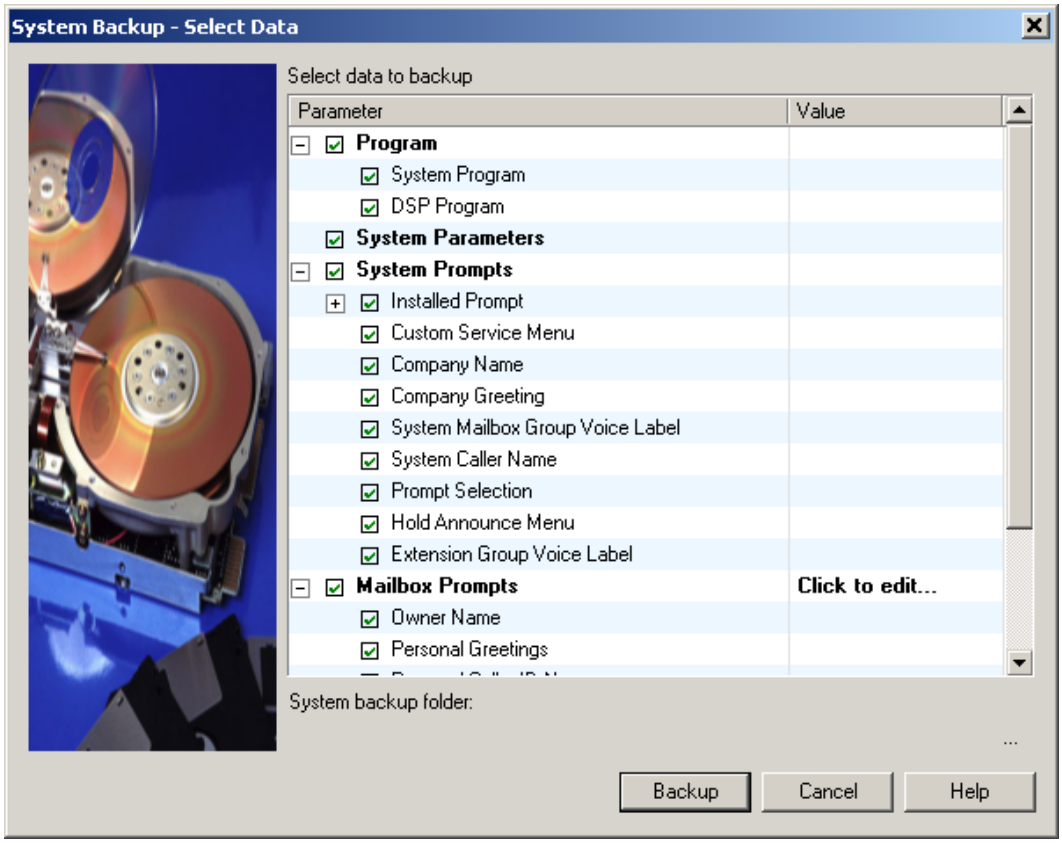
- The execution time for the initialisation may differ each time it is performed because of system capacity and system programs. Generally, initialisation will take about 10 min to accomplish.

7.2 Backing Up the System

Click [Utility→System Back up→Make Backup...].



Select the data to be backed up, then enter the file path for the system backup. Then **click "Backup"**.



The system will prepare the data to be backed up, and the backup will begin about 30 seconds later. The time needed to backup the data will vary depending on the connection method, communication speed, and the amount of data that is being backed up.

To restore the system from a backup, refer to [Restoration of Backup Data] in 1.8.2 Utility—System Back Up in the Programming Manual.

Note

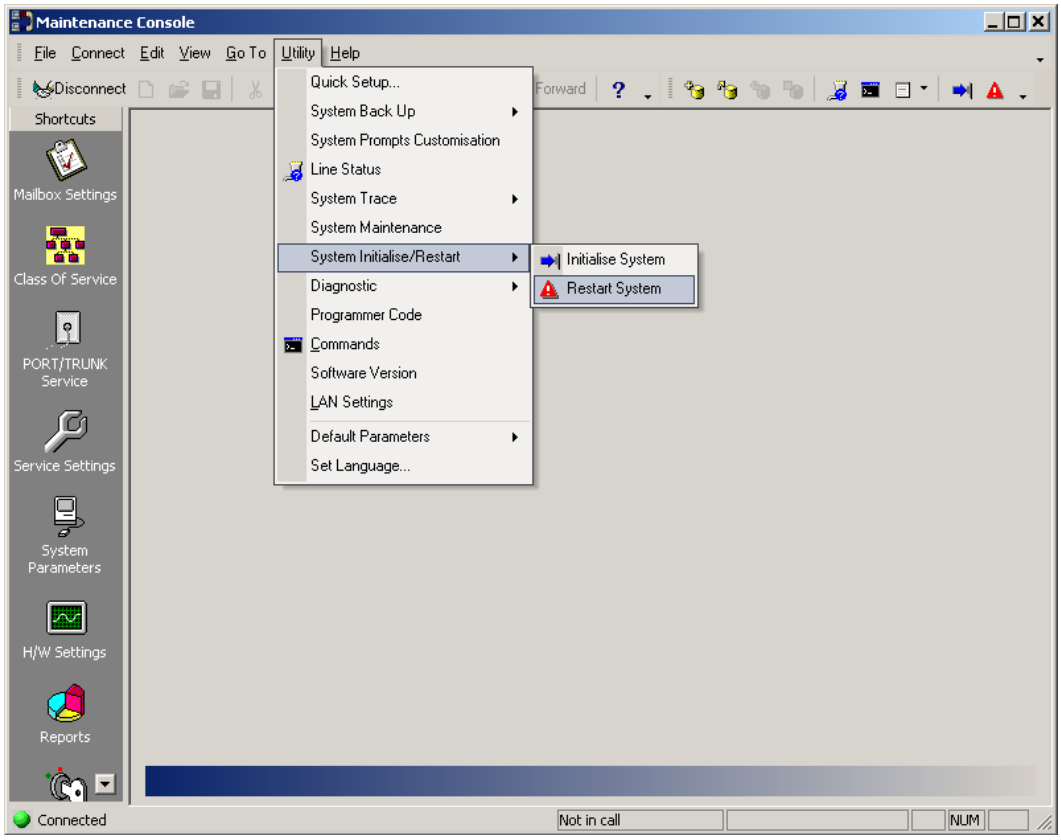
- Deleted messages are not backed up.
- Backing up all data (including system prompts) is recommended.
- System prompt files are very large and can take several hours to backup.
- Store backup files in a safe place.

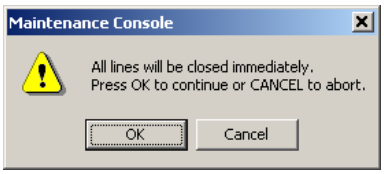
7.3 Resetting the VPS

If the VPS is not functioning properly, restarting the VPS may resolve the issue. There are 3 methods for restarting the VPS, explained below.

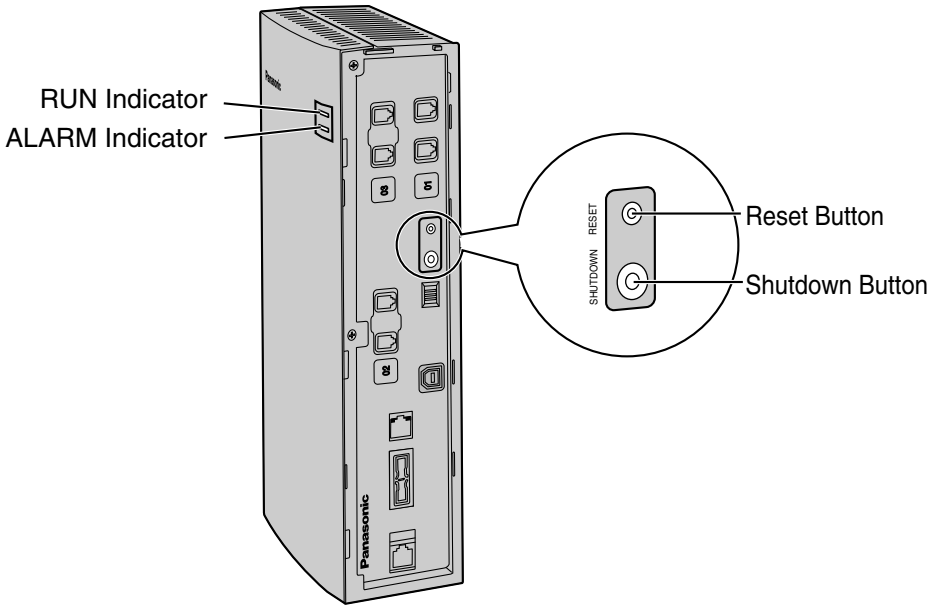
Operation

1. If the VPS does not operate properly:
   a. First, try to **click "Utility→System Initialise/Restart→Restart System"**.

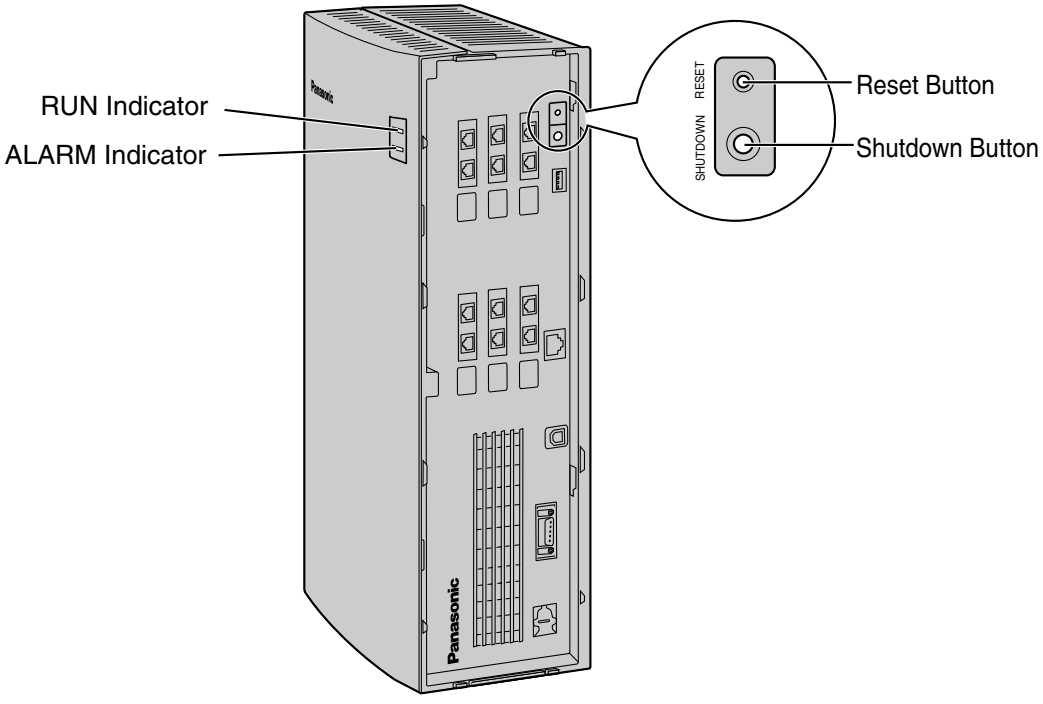




   b. **Select "OK"** to close all lines and restart the VPS.
   c. Press **"OK"** and wait for the VPS to restart.
2. If the VPS still does not operate properly:
   a. Press the Shutdown button. The RUN Indicator will begin flashing.
   b. Wait for the RUN Indicator to turn off and for the ALARM Indicator to light.
   c. Press the Reset button.
      - Pressing the Reset button before the Alarm Indicator lights may cause the VPS to take an exceptionally long time (up to 10 minutes) to start up again.



KX-TVM50



KX-TVM200

3. If the VPS still does not work:

a. **Press** the **Reset button** only.

7.4 Utility

The Utility menu provides access to the following functions and utilities:

- Quick Setup
- System Back Up
- System Prompts Customisation
- Line Status
- System Trace
- System Maintenance
- System Initialise/Restart
- Diagnostic
- Programmer Code
- Commands
- Software Version
- LAN Settings
- Default Parameters
- Set Language [*1]

To select an item from the Utility menu, click **Utility** in the menu bar, then select the desired function or utility.
Certain Utility menu items are also available from the Tool Bar (System Back Up, Line Status, System Trace, System Initialise/Restart and Commands).

For more information, see 1.8 Utility in the Programming Manual.

[*1] In order to use this feature, you need to upgrade the KX-TVM Maintenance Console software on a PC connected to the VPS.

7.5 Reports

The System Administrator can generate various system reports in order to monitor VPS operations. Reports can be displayed on a PC, printed, or exported.

- Mailbox Information Report
- Call Account Report
- Port Usage Report
- HDD (Memory) Usage Report
- Mailbox Usage Report
- Fax Call Report
- Call Handling Statistic Report
- Custom Service Report
- Message Status Report
- Subscriber Setup Report
- Security Information Report
- Hourly Statistic Report
- E-mail Report

For more information, see 2.7 Reports in the Programming Manual.

7.6 Troubleshooting

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
Nothing is heard from the VPS when accessing the VPS.	• Improper connection of jacks. • Bad connection with the PBX.	• Confirm that you are using the correct extension number for the VPS. Ask your System Administrator. • Check if the jacks of the VPS are connected to the proper jacks of the PBX (see 1.2 Voice Mail Integration). • Check the System Program [130] of the KX-TA series or KX-TE series to see if the programming agrees with the actual connection. • Check the "1-4 VPS (DPT) Port Assignment" screen of the KX-TD500, or System Program [117] or [126] of other KX-TD series PBXs, or the "Groups-VM(DPT) Group-Unit Setting" and "Configuration-Extension Port" screens of KX-TDA series PBXs that use DPT Integration to see if the programming agrees with the actual connection.
Unable to utilise some of the DPT Integration features, even though DPT Integration has been established properly.	• Your PBX cannot support the feature. • The software version of your PBX is lower than required.	• Consult your dealer.
The VPS does not operate.	• Bad printed circuit board. • Bad connection with PBX. • Incomplete card insertion.	• Change the printed circuit board. • Check the connection between the VPS and PBX. • Insert the card firmly into the card slot.
Dialling is not registered.	• A pulse telephone is being used by mistake. • Improper setting of integration mode.	• Change to a touch tone telephone. • Adjust the integration mode properly between the VPS and your PBX (see "Integration Mode" in 2.5.4 Parameters in the Programming Manual).

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
Line disconnection occurs while transferring a trunk call. ***Unable to transfer a trunk call.***	• Improper setting of the sequence. • Improper setting of the hooking time. • Improper setting of the CPC signal. • "Transfer to CO" not enabled on the PBX.	• Adjust the transfer sequence to that of the connected PBX and reset (see "Operator Transfer Sequence" and "Extension Transfer Sequence" in 2.5.4 Parameters in the Programming Manual). • Adjust the hooking time to that of the connected PBX and reset (see "Flash Time" in 2.6.1 Global Parameters in the Programming Manual). • Adjust the CPC signal to that of the connected PBX and reset (see "CPC Signal " in 2.6.1 Global Parameters in the Programming Manual).
Unable to call an outside party.	• Improper setting of the trunk call dial procedure.	• Reset the trunk access sequence of the connected PBX (see "Dial Number" in 2.1.4 Notification Parameters and "Number of Digits to Access Outside Line" in 2.5.4 Parameters in the Programming Manual). • Also check "Outgoing Call No Answer Time" in 2.5.4 Parameters in the Programming Manual. • When setting a Dial Number for Device Notification or a telephone number for External Message Delivery, keep in mind the "Note" for "Dial Number" in 2.1.4 Notification Parameters in the Programming Manual.
Unable to call an extension.	• Improper setting of PBX Extension Numbering Plan.	• Check the PBX Extension Numbering Plan.
Unable to access the mailbox.	• Improper setting of the mailbox number.	• Adjust the number of digits in the mailbox number (see "Mailbox Number" in 2.1.3 Mailbox Parameters in the Programming Manual).

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
Unable to access to Operator 1	• Improper setting of the operator extension number.	• Adjust the operator extension number to that of the connected PBX (see "Operator's Extension" in 2.4.3 Parameters in the Programming Manual).
Unable to make reconnection when the line is busy.	• Improper setting of the busy signal reconnection procedure.	• Adjust the busy signal reconnection procedure to that of the connected PBX (see "Reconnect Sequence on Busy" in 2.5.4 Parameters in the Programming Manual).
Unable to make a no-response reconnection.	• Improper setting of the no-response reconnection procedure.	• Adjust the no-response reconnection procedure to that of the connected PBX (see "Reconnect Sequence on No Answer" in 2.5.4 Parameters in the Programming Manual).
Unable to generate a call waiting tone from the VPS.	• Improper setting of sequence.	• Adjust the Call Waiting sequence to that of the connected PBX (see "Call Waiting Sequence" in 2.5.4 Parameters in the Programming Manual).
Unable to make an Intercom Paging for groups.	• Improper setting of the Intercom Paging access code.	• Adjust the Intercom Paging access code to that of the connected PBX (see "Paging Code" in 2.5.4 Parameters in the Programming Manual).

Glossary

Alternate Extension Group

The extensions assigned to an Alternate Extension Group receive transferred calls via the sequence specified as the group's "Alternate Extension Transfer Sequence".

APT Integration

Digital Integration between KX-TA/TE series PBXs and the VPS. When the VPS and PBX use APT Integration, voices are sent using analogue technology, and data is sent digitally.

Auto Configuration

Available with APT/DPT Integration only. Simplifies initial system setup by reading information from the PBX and automatically creating mailboxes in the VPS to correspond to the extensions connected to the PBX. Auto Configuration can be initiated with the appropriate Mode Switch setting or by System Administration (Quick Setup).

Auto Forwarding

Allows unplayed messages to be copied or moved to another mailbox.

Auto Receipt

Allows a subscriber or the System Manager to receive a message to confirm the reception of sent messages to other subscribers.

Automated Attendant

The Automated Attendant feature of the VPS requests the caller to enter an extension number and then the VPS dials the number. If there is no answer or the line is busy, the caller is given certain options, including the option to leave a message in a mailbox. This is the advantage of calling an extension indirectly through the Automated Attendant rather than calling it directly.

Automatic Log-in

Available with APT/DPT Integration only. Allows subscribers to access their mailboxes directly without entering their mailbox numbers. Subscribers can access their mailboxes directly from their extensions or from outside phones by dialling a preprogrammed telephone number (either a DID number or a telephone number that reaches the PBX via a preprogrammed outside line) or by calling the VPS from a preprogrammed telephone number (Caller ID number).

Autoplay New Message

The VPS plays new messages automatically when a subscriber, the System Manager, or the Message Manager logs in to his or her mailbox.

Bookmark

Enables a subscriber, the System Manager, or the Message Manager to set a specific point (Bookmark) in a message and easily resume playback later from that point.

Call Blocking

Allows subscribers to have their calls handled by the Incomplete Call Handling Service without ringing at their extensions.

Call Screening

Allows subscribers to screen calls. The VPS prompts the caller with the message "Record your name at the tone", and records the caller's name. The caller is put on hold while the VPS calls the subscriber and plays back the caller's name. The subscriber can then decide whether to take the call or not.

Called Party ID

(Sometimes referred to as Follow-On ID) Allows the PBX to dial extra digits to bring the caller directly to a specified mailbox, rather than to the General Delivery Mailbox.

Caller ID Callback

Available with APT/DPT Integration only. Enables a subscriber to use the Caller ID number information included with a message to call back the message sender without dialling the caller's telephone number.

Caller ID Call Routing

Available with APT/DPT Integration only. The VPS automatically sends calls from preprogrammed Caller ID numbers to a specified extension, mailbox (including Mailbox Group) or Custom Service.

Caller Name Announcement (System/Personal)

Available with APT/DPT Integration only. The VPS announces prerecorded Caller ID caller names when:
(1) subscribers listen to messages received from preprogrammed telephone numbers left in their mailboxes.
(2) the VPS transfers calls from preprogrammed telephone numbers to subscribers (Caller ID Screening).
(3) the VPS pages subscribers by intercom (Intercom Paging).
Caller names can be recorded and played for all subscribers (system) or can be recorded by individual subscribers and played for their own calls only (personal). If the same Caller ID number is programmed for both System and Personal Caller Name Announcements, the VPS will use the caller name recorded by the subscriber.

Company Greeting

A maximum of 32 Company Greetings can be recorded to greet callers. One (or System Greeting or none) can be selected for each Day, Night, Lunch, Break, and Holiday service based on a port and outside line.

Company Name

This is played by the VPS to the intended receiver of an External Delivery Message when he or she is unable to enter correctly the password (if a password is required to listen to the message). This helps him or her to realise where the call came from and contact the message sender if necessary.

Covering Extension

Allows subscribers to set another extension as the destination for their calls. Callers can be directed to the covering extension either by the Incomplete Call Handling feature, or by pressing [0] while listening to a subscriber's personal greeting message or while leaving a message.

Custom Service Builder

Allows the System Administrator to create Custom Services visually, using KX-TVM Maintenance Console. Each Custom Service and its functions can be edited and arranged using a familiar drag-and-drop interface.

Custom Service

Allows callers to perform specific functions by pressing dial buttons on their telephones while listening to voice guidance (Custom Service Menus). Custom Services allow callers to connect themselves to an extension, mailbox, Mailbox Group, operator, fax machine, etc., without the assistance of an operator. The System Administrator can create a maximum of 100 Custom Services.

Default Mailbox Template

Is used as a template when the System Administrator creates consecutive mailboxes. It enables the System Administrator to apply basic settings (Mailbox Parameters, Message Waiting Notification, External Message Delivery, Auto Forwarding) to multiple mailboxes simultaneously.

Default Setting

A parameter defined for the VPS at the factory which can be changed through system programming by the System Administrator or the System Manager.

Delayed Ringing

There are 2 kinds of delayed ringing applications.
(1)The VPS is used as the no-answer destination for the Intercept Routing feature of your PBX.
(2) DIL 1:N (outside line to several extensions) terminates on telephones and VPS ports. To give the telephone users a chance to answer calls, the VPS lines should be programmed for delayed ringing. Otherwise, the VPS will answer the calls immediately.

Delete Message Confirmation

The VPS requests confirmation from the subscriber before erasing a message left in his or her mailbox.

Delivery Time

The time specified by the subscriber for the VPS to deliver a prerecorded message. Subscribers can specify the delivery time when leaving messages for other subscribers or when sending a message via External Message Delivery.

DID Call Routing

Available with DPT Integration only. The VPS automatically sends calls from preprogrammed DID numbers to a specified extension, mailbox (including Mailbox Group) or Custom Service.

DPT Integration

Digital integration between the VPS and the KX-TD500, the KX-TD816, the KX-TD1232, the KX-TD612, or the KX-TDA series. Requires upgraded software in the PBX.
Depending on the model and/or the software version of the connected PBX, you may not be able to utilise certain features available only with DPT Integration. For more information, consult your dealer.

DTMF

Dual Tone Multi Frequency. Commonly referred to as touchtone.

E-mail Integration

Allows subscribers and the Message Manager to receive notification by e-mail when they receive new messages. Subscribers can also have the voice message attached to the e-mail notification if the System Administrator has enabled this feature for their mailboxes.

External Delivery Message

A message recorded by a subscriber and then delivered to outside parties and/or extensions. The VPS dials the outside telephone number or extension number and plays the message for the recipient. The message can be delivered immediately or at a specified time.

External Message Delivery List

A preprogrammed list of outside parties and extensions that can be used to deliver an External Delivery Message to several recipients in one operation. Each subscriber can create 2 External Message Delivery Lists. Each list can have 8 destinations.

External Message Delivery Retry

Determines how many times the VPS will attempt to deliver an External Delivery Message when the called line (recipient) is busy or does not answer.

Fast Forward

Allows a subscriber to fast forward through a message in 4 second intervals.

Follow-On ID

(see "Called Party ID")

General Delivery Mailbox

A special mailbox that is maintained by the Message Manager. If a caller does not have a DTMF-compatible telephone, the caller cannot dial numbers in order to connect himself or herself to an extension or mailbox. Callers who do not dial any numbers can be directed to the General Delivery Mailbox.
Periodically (daily is best), the Message Manager should transfer messages in the General Delivery Mailbox to the appropriate subscriber mailboxes.

Hash Sign

The [#] key on the telephone keypad. Also known as the "pound sign".

Immediate Reply

Allows the message recipient to reply to a message without specifying the extension number or the mailbox number of the sender.

Inband Integration

When the VPS and PBX use Inband Integration, voices are sent using analogue technology, and data is sent using analogue DTMF tones. The PBX informs the VPS of the status of extensions by sending DTMF tones and Call Progress tones to the VPS. Many features, such as Intercom Paging, Live Call Screening (LCS), etc., are not available with Inband Integration.

Incomplete Call Handling Service

Calls are considered incomplete when is the called extension does not answer, is busy, or has set Call Blocking.
Incomplete Call Handling can handle calls in 7 different ways. Each subscriber can specify the options available to callers when their calls are incomplete.
(1) leave a message in the subscriber's mailbox
(2) transfer to the subscriber's Covering Extension
(3) Intercom Paging (notify the subscriber by paging the subscriber)
(4) Beeper (Pager) Access (notify the subscriber by paging the subscribers beeper [pager])
(5) transfer to Custom Service
(6) transfer to operator
(7) return the caller to the top menu, allowing the caller to call another extension

Intercept Routing—No Answer

A PBX feature that transfers an unanswered call to another extension or to the VPS.

Intercom Paging

Available with APT/DPT Integration only. If a subscriber has set Intercom Paging, the VPS will page the subscriber and announce that he or she is receiving a call. The VPS can announce prerecorded caller names using the Caller Name Announcement feature, or prompt the caller to record his or her name and announce the recorded name. Pages can be heard through PT speakers or through external speakers connected to the PBX.

Interview Service

Allows the VPS to "interview" a caller by playing a series of prerecorded questions and recording the caller's responses. Subscribers are able to record questions directly into their interview mailboxes. After a caller records his or her answers, the Message Waiting Lamp turns on at the subscriber's telephone. This feature is very useful for claims departments, order desks, job applications, etc.

Keypad

The dial keys ([0]–[9], [✳], [#]) on a telephone.

LCD

Liquid crystal display

Live Call Screening (LCS)

Available with APT/DPT Integration only. Allows the subscriber to use his or her PT to monitor incoming calls as messages are being recorded. The subscriber has the option of answering calls while monitoring or allowing the message to be recorded without interruption.

Logical Extension (All Calls Transfer to Mailbox)

An extension that always receives calls directly into its mailbox. This feature is used by subscribers who are often unavailable or who do not have a telephone.

Mailbox Capacity (recording time)

The total length of time for all messages that can be recorded in a subscriber's mailbox. The System Administrator or System Manager can set each subscriber's maximum mailbox capacity. Each subscriber's mailbox capacity is determined by COS.

Mailbox Capacity Warning

Allows the VPS to alert subscribers when recording time for their mailboxes are running low. The warning announcement will be heard at the beginning of Subscriber's Service.

Mailbox Group

A preprogrammed list of subscriber mailboxes that can be used (by any subscriber) to deliver a message to several recipients in one operation.
Up to 20 Mailbox Groups can be created.

Mailbox Number

Normally the same number as the corresponding subscriber's extension number.

Message Envelope Setting

Specifies when message envelopes (message date and time, name of the person who recorded or transferred the message, telephone number of the caller) are announced. Envelopes can be played back before or after messages automatically, or only when the subscriber presses [2] [3] during or after message playback.

Message Manager

Mailbox 998. The person who takes care of message-related maintenance, such as General Delivery Mailbox maintenance, and recording and deleting messages (System Prompts, Company Greetings, Custom Service Menus, System Caller Names, etc.)

Message Recovery

Allows a subscriber to change the status of a message from "deleted" to "old", preventing the message from being permanently deleted.

Message Retention Time

Determines the number of days before a message is automatically deleted.
New Message Retention Time: Determines when new (unplayed) messages are deleted.
Saved Message Retention Time: Determines when old (played) messages are deleted.

Message Retrieval Order

When a subscriber has several messages in his or her mailbox, determines whether messages are played back from newest to oldest (Last In First Out [LIFO] or from oldest to newest First In First Out [FIFO]).

Message Transfer

Allows a subscriber to reroute a message to another mailbox and add his or her comments to the message if necessary. Receipt messages and messages originally marked as "private" cannot be transferred.

Message Waiting Lamp

The lamp on a PT that lights when there are messages in the extension user's mailbox.

Message Waiting Notification

Notifies subscribers and the Message Manager when they have received messages, by lighting the Message Waiting Lamp on their PTs, by calling a preprogrammed telephone number, or by paging a beeper (pager).

Multilingual Selection Menu

Allows callers to select the language they would like to hear for voice guidance (system prompts). 3 languages can be selected for the Multilingual Selection Menu of the KX-TVM50; 5 languages for the KX-TVM200.

Non-Subscriber

A caller to the VPS who does not own a mailbox.

Notification Method

(see "Message Waiting Notification")

On Hold Announcement Menu

Allows callers in a queue to listen to the prerecorded announcement or music while they are on hold.

One-touch Two-way Transfer (One-touch TWT)

Available with KX-TDA series PBXs using DPT Integration only. Allows a subscriber to record his or her telephone conversations into another subscriber's mailbox with a one-touch operation.

Operator

3 different extensions can be assigned as operators for each time mode. Callers can be directed to an operator when they dial [0], when they have rotary or pulse telephones (and thus cannot dial while listening to VPS prompts), or when certain VPS features are programmed to direct callers to an operator.

Owner's Name

Each mailbox has an owner's name (subscriber name), and there are 2 ways that these names are stored in the VPS.
First, subscribers can record their own names; the VPS can announces this recorded name during transfers, Intercom Paging, and when callers use the Dialling by Name feature.
Second, the System Administrator can assign a text name for each subscriber. This allows callers to dial subscribers extension's by name (Dialling by Name) rather than by number. For example, a caller can dial "S-M-I-T" (Smith) rather than Smith's mailbox number, which can be hard to remember.

Password

A combination of numbers that protects a subscriber's mailbox from unauthorised access. If forgotten, the System Administrator or the System Manager can clear it so that the subscriber can select a new password.

Personal Custom Service

Similar to a Custom Service, allows callers to perform specific functions by pressing dial buttons on their telephones while listening to the subscriber's Personal Greeting Message. A subscriber's Personal Custom Service can allow callers to connect themselves to another extension, mailbox, outside telephone (such as the subscriber's mobile phone), etc., without the assistance of an operator. Each subscriber can create his or her own Personal Custom Service.

Personal Greetings

Subscribers can record 3 greeting messages that greet callers who are directed to their mailboxes. The Personal Greeting heard by callers depends on the status of the subscriber or VPS.
No Answer Greeting: Heard by callers when the subscriber does not answer.
Busy Signal Greeting: Heard by callers when the subscriber is busy.
After Hours Greeting: Heard by callers when the VPS is in night mode.

Personal Greeting for Caller ID

Available with APT/DPT Integration only. A subscriber can record a maximum of 4 Personal Greeting messages that are played for callers whose telephone numbers (Caller ID numbers) have been assigned to a Personal Greeting for Caller ID. A maximum of 8 Caller ID numbers can be assigned to each greeting.

Personal Group Distribution List

A preprogrammed list of subscriber mailboxes that can be used (by the subscriber who created the list) to deliver a message to several recipients in one operation. Each subscriber can create 4 Personal Group Distribution Lists. Each list can have 40 members.

Personal Programming

Also known as Station Programming. PBX programming that is performed by an extension user to customise his or her extension's settings. In order to user certain VPS features, such as Live Call Screening (LCS), personal programming may be required.

PIN Call Routing

Allows preferred callers to be directed to a specific extension, mailbox, or Custom Service when they enter their assigned PIN.

Playback Volume/Speed Control

Allows subscribers to control playback volume and speed while listening to messages.

Port

The point of connection between the PBX and the VPS.

Pound Sign

The [#] key on the telephone keypad. Also known as the "hash sign".

Private Message

A message designated by the sender as private. Private messages cannot be forwarded by the recipient.

Remote Call Forwarding Set

Available with DPT Integration only. Allows subscribers and the Message Manager to program their extensions from a remote location to forward various types of calls (all calls, no answer, busy, etc.) to a desired extension, or to an outside telephone (Remote Call Forward to Outside).

Remote Call Forward to Outside

Available with DPT Integration only. Allows subscribers and the Message Manager to program their extensions from a remote location to forward their calls to an outside telephone, if authorised.

Rewind

Allows a subscriber to replay the last 4 seconds of a message.

Rotary Telephone

A telephone that is not capable of emitting DTMF (touchtone) signals. Callers using rotary telephones will be automatically forwarded to an operator or the General Delivery Mailbox because they cannot dial numbers as directed by the VPS prompts.

Service Group

A group of settings which determine how incoming calls are handled by the VPS. One of 8 call service groups is assigned to each VPS port or PBX outside line.

Service Mode

Determines if incoming calls are handled by the VPS according to settings made for day mode, night mode, lunch mode, or break mode. The current mode can be changed automatically (either by the VPS or by the time mode settings of the PBX) or can be changed manually by the System Administrator and System Manager. Each Service Group is assigned a Service Mode.

Subscriber

A person who has an assigned mailbox.

Subscriber Tutorial

Guides subscribers through the mailbox configuration process the first time they access their mailboxes. The subscriber's password, owner's name, and Personal Greetings can be configured using the Subscriber Tutorial.

System Administration

Includes system programming, diagnosis, system prompt administration, etc. They are performed by the System Administrator, using a PC running the KX-TVM Maintenance Console software. System Administration can be performed locally (on-site) by connecting to the VPS via USB or LAN, or remotely (off-site) by connecting to the VPS via the optional modem card.

System Administrator

Is the person responsible for programming the most essential VPS settings. Unlike the Message Manager and the System Manager, who use a telephone to perform their duties, the System Administrator uses a PC running the KX-TVM Maintenance Console software to program the VPS. The System Administrator's handbook is the Programming Manual. Only one programming session is possible at a time.

System External Message Delivery Duration Time

Specifies the maximum telephone connection time allowed for External Message Delivery. Prevents excessive telephone charges.

System Manager

Mailbox 999. The person who can perform a subset of the items that can be programmed by the System Administrator. The System Manager, using a telephone connected to the VPS, can create/delete mailboxes, clear subscriber passwords when they are forgotten, set Class of Service parameters, set the System Clock, etc.

System Prompt

Recorded voice guidance messages that help subscribers and callers use VPS features. Over 1000 prompts are prerecorded in the VPS.
The System Administrator and Message Manager can rerecord prompts as necessary.
The System Administrator and the Message Manager can turn system prompts on and off as needed.
Each system prompt has a unique number.

System Report

The System Administrator or the System Manager can generate various System Reports to monitor the status of the VPS.

System Security

By default, the System Manager and Message Manager cannot access the VPS from their telephones until the System Administrator sets their passwords and allows them to access the VPS via their telephones. The System Manager and Message Manager must always enter their passwords in order to access the VPS.
The System Administrator can also choose to set a default password for subscriber's mailboxes. If this setting is enabled, a default password is automatically assigned when mailboxes are created.

Temporary Personal Greeting

A special greeting that, if recorded by a subscriber, is heard by callers instead of the subscribers other Personal Greetings. Often used to inform callers of a temporary absence. A common example might be, "This is (name). I'm out of the office this week…".

Time Synchronisation

Available with DPT Integration only. When the date and time is set for the PBX or when DPT Integration is established, date and time data is sent from the PBX to the VPS.

Timed Reminder Setting

Available with DPT Integration only. Allows a subscriber to set a Timed Reminder by following system prompts provided by the VPS. Timed Reminder is a PBX feature that is similar to an alarm clock; the telephone will ring at the set time (once or daily) as set by the subscriber or Message Manager.

Toll Saver

Allows a subscriber to check his or her mailbox for new messages by calling the VPS from a preprogrammed Caller ID number, by dialling a preprogrammed DID number, or by dialling a telephone number that connects the call to a preprogrammed outside line of the PBX. Toll Saver is a cost-saving feature that lets the subscriber know if he or she has new messages by the number of rings heard before the VPS answers the outside call from the subscriber. If the VPS does not answer the call within a preprogrammed number of rings, the subscriber can disconnect the call and thus avoid telephone charges.

Two-way Record

Available with APT/DPT Integration only. Allows a subscriber to record his or her telephone conversations into his or her mailbox.

Two-way Transfer

Available with APT/DPT Integration only. Allows a subscriber to record his or her telephone conversations into another subscriber's mailbox. The subscriber must specify the desired extension number when using this feature.

Unlimited Message Length

Allows a subscriber to record telephone conversations of an unlimited length of time when using Two-way Record and Two-way Transfer. The maximum recording time for other messages will be automatically set to 60 minutes.

Urgent Message

A message designated by the sender as urgent. Urgent messages are played back before other messages when the recipient listen to his or her messages.

VM Menu

Available with KX-TDA series PBXs using DPT Integration only. Displays VPS text prompts on the display of a compatible PT, allowing the subscriber to operate the VPS by following text prompts and pressing soft buttons and the Navigator Key. Voice prompts are not used.

Voice Mail

A general term used for messages recorded by the VPS and stored in subscriber mailboxes.

VPS

A Voice Processing System, such as the Panasonic KX-TVM50, and KX-TVM200.

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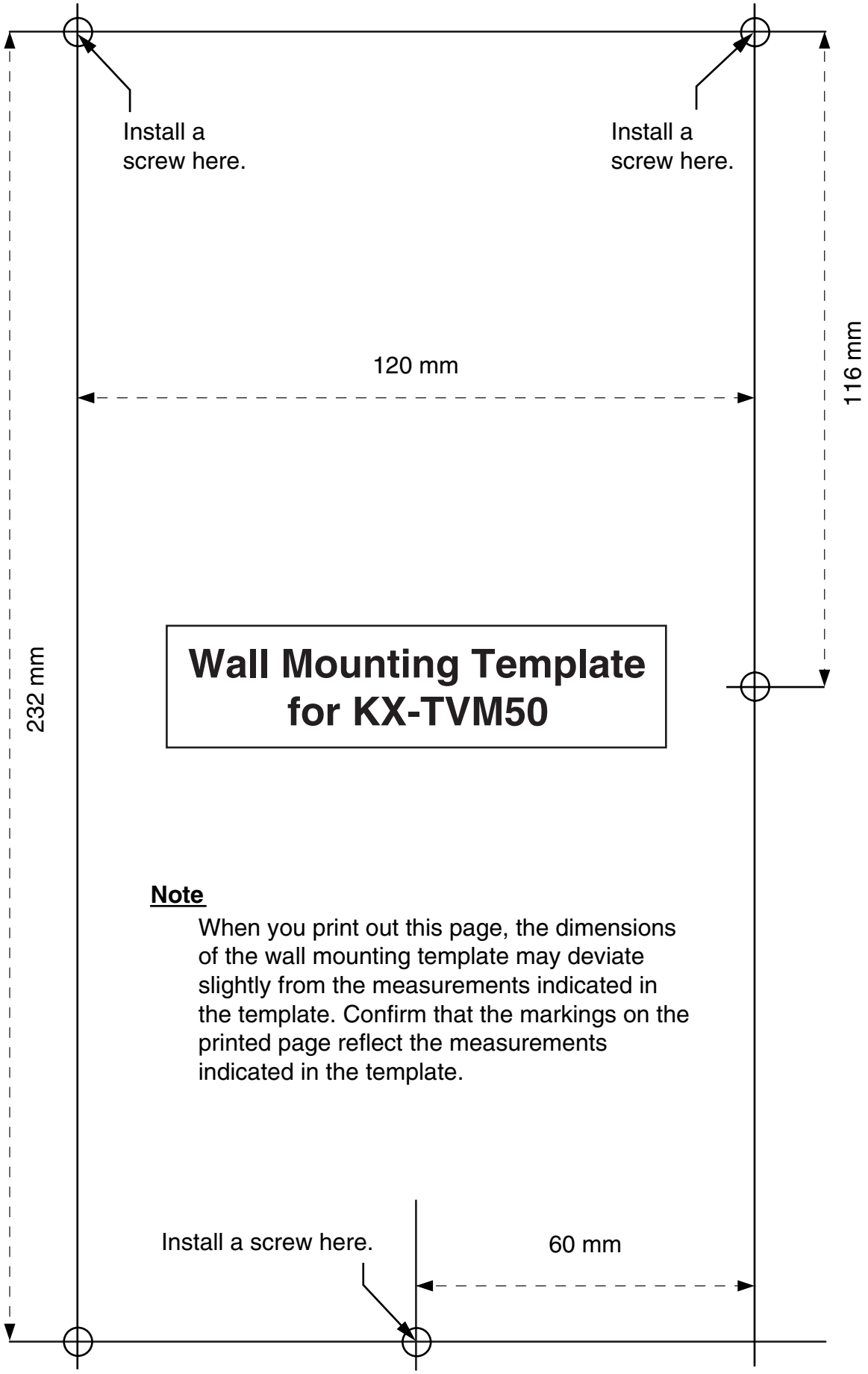

Wall Mounting Template for KX-TVM50

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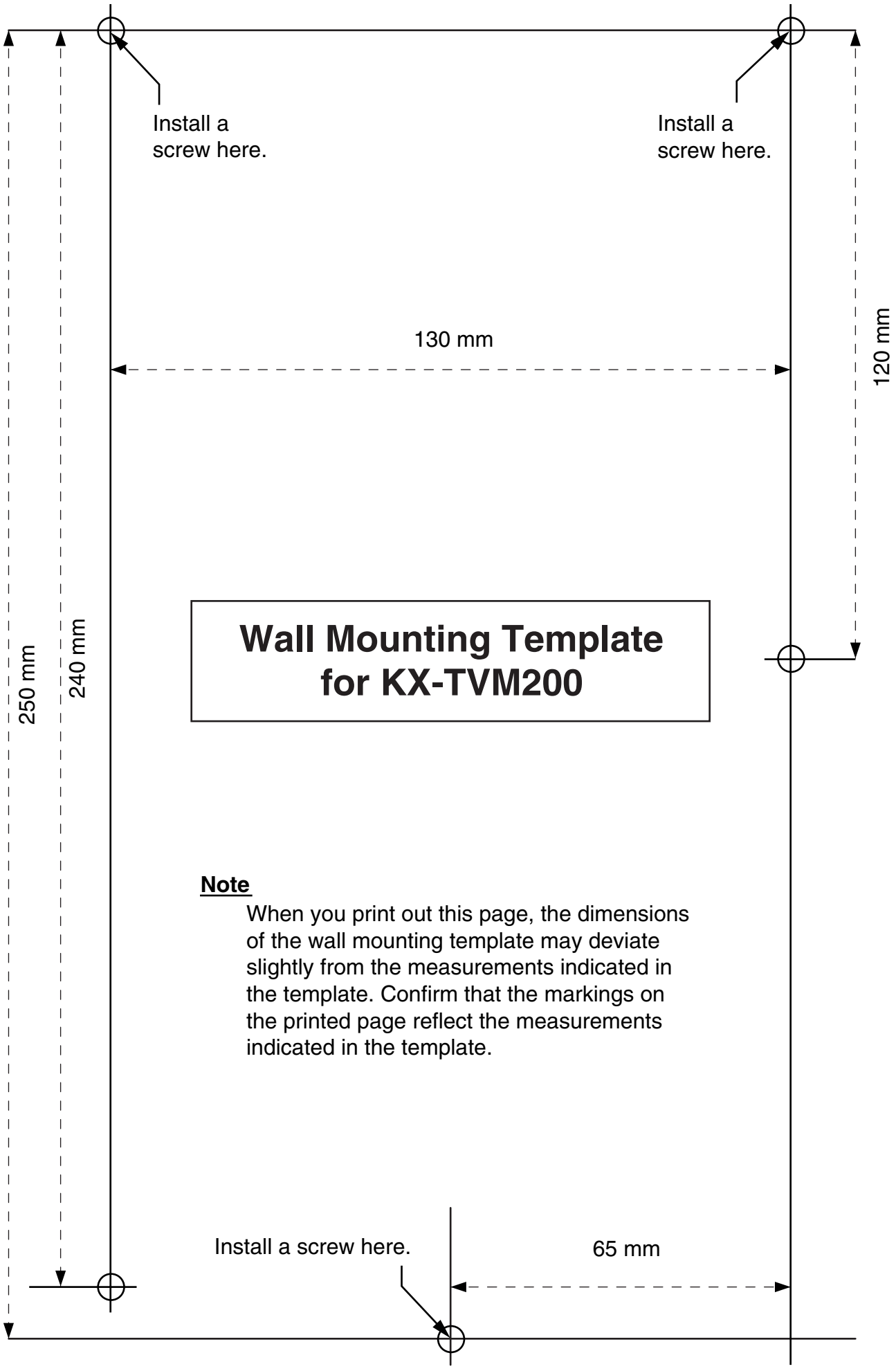

Wall Mounting Template for KX-TVM200

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